

# JVC

## SERVICE MANUAL

MODEL

**RC-828L/LB**

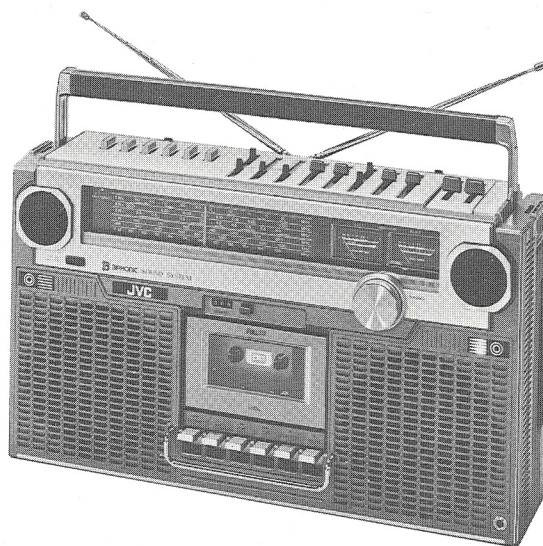
FM-LW-MW-SW1-SW2-SW3

6-BAND

BIPHONIC STEREO

RADIO CASSETTE

RECORDER





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## Specifications

**DIMENSIONS:** 47.0cm(W) x 27.3cm(H) x 12.7cm(D)  
18-1/2" x 10-3/4" x 5"

**WEIGHT :** Approx. 6.4 kg (with batteries)  
14.1 lbs.

### TUNER SECTION

Frequency Ranges : FM 88~ 108MHz  
LW 150~ 350kHz  
MW 540~ 1600kHz  
SW1 2.3~ 6MHz  
SW2 5.95~ 6.2MHz  
SW3 6~ 18MHz

### RECORDER SECTION

Tape Speed : 4.75cm/s (1-7/8 ips)  
Track System : 4-track 2-channel stereo  
Recording System : AC Bias  
Erasing System : AC Erasing  
Fast Forward Time : Within 110 sec. (C-60 cassette)  
Rewinding Time : Within 110 sec. (C-60 cassette)  
Wow & Flutter : 0.09% (WRMS)

### AMPLIFIER SECTION

Speakers : 16cm (6-1/2") x 2, 5cm (2") x 2  
Power Output : Max. 8W (4W + 4W) (DC)  
Input Jacks : MIC x 2, DIN  
Output Jacks : Ext. Speaker x 2 (6Ω)  
Headphones (8Ω)

**POWER CONSUMPTION :** 19W

### SEMICONDUCTORS

ICs : 6  
Transistors : 32  
Diodes : 15

### POWER SOURCE

DC : 12V, 8 "R20" cells or equivalent  
AC : 110/220/240V 50/60Hz



# Technical Information

## BIPHONIC SYSTEM

The BIPHONIC system is the new method of acoustical reproduction developed by JVC.

The BIPHONIC means that the BINAURAL program is reproduced stereophonically through the speaker systems.

### 1. BINAURAL SYSTEM

The BINAURAL system is to reproduce programs recorded by two microphones which are located at the both ear positions of artificial head acoustically simulates a human head. The direction and distance of sound sources can be distinguished when listening to the binaural recorded programs through headphones. The human distinguishes the direction and distance of sound sources by level difference and time lag of sounds which propagate to both ears.

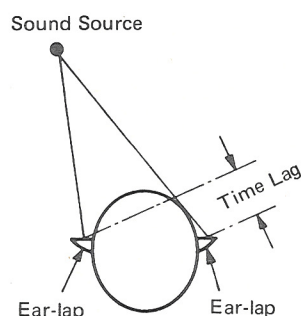


Fig. 1

The most important thing is that the binaural programs should be reproduced through the headphones, that is, the left channel sounds should be heard by left ear and right sound by right ear.

### 2. BIPHONIC PROCESSOR

The newly developed BIPHONIC system can reproduce the binaural programs through the speaker systems.

There exists unwanted signals, when reproducing the binaural programs through the speaker systems, crosstalk  $b$  and reflected signal  $c$  as shown in Fig. 2.

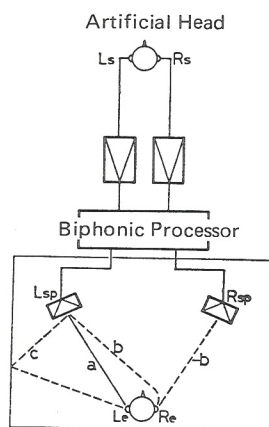


Fig. 2

To improve the binaural effect the crosstalk should be acoustically cancelled and the reflected signals should be decreased.

To decrease the reflected signals, set the speaker systems in a dead room or change the location of speaker systems.

To cancel the crosstalk  $b$ , the signal  $-b$  which is the same level as the crosstalk  $b$  at the position of right ear and is the reverse phase should be emitted from the right speaker. The new circuitry "BIPHONIC PROCESSOR" has been developed by JVC to cancel the crosstalk and to reproduce the binaural programs through the speaker systems.

The model RC-828 is equipped with the IC (Integrated Circuit) of BIPHONIC PROCESSOR.

The block diagram of BIPHONIC PROCESSOR is shown in Fig. 3.

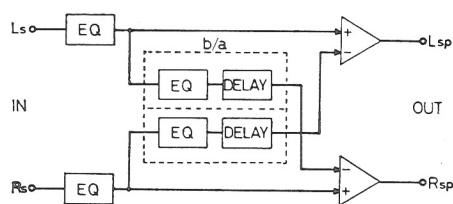


Fig. 3

Part of signals are added to the opposite channel through the equalizer and delay circuit to cancel the crosstalk. As the level and phase of crosstalk is varied by distance from the speaker, the listening position at where the binaural effect is normally obtained is limited.

The optimum listening position of model RC-828 is set between 60 to 80cm from the speakers.

### 3. EXPANDED PLAYBACK

The BIPHONIC system can expand the sound field of 2-channel stereophonic programs.

Generally, in the 2-channel stereo systems, the sound field exists between left and right speaker systems.

The sound field expands to the outside area of speaker systems when the 2-channel stereo programs are reproduced through the BIPHONIC PROCESSOR.

This effect is named "EXPANDED PLAYBACK".

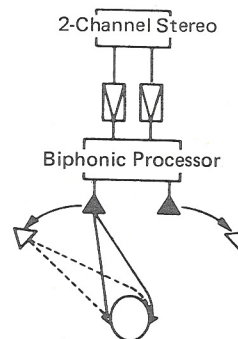


Fig. 4

The BIPHONIC PROCESSOR also widens the sound field of 2-channel stereo programs in listening through the headphones, this is named "STEREO WIDE PLAYBACK".



## FULL AUTO STOP MECHANISM

The model RC-828 is equipped with the full automatic stop mechanism which functions in any mode, playback, recording, fast forwarding (F.F.) and rewinding, when the tape has stopped.

The motor is turned on when the control button has been pressed. The motor rotation is transmitted to the worm gear through the driving belt, the driving pulley and the worm wheel. Those parts are included inside the shut-off assembly.

The gear is always turning while the motor is rotating. In the playback, recording, and F.F. mode, the take-up disk is turning to the (A) direction as shown in Fig. 5 and the rotation is transmitted to the detection pulley by way of the detection belt. The detection cam that is swung to the (A) direction as shown in Fig. 7 by the friction of the felt which is contacted with the detection pulley pushes the release lever outward. In the rewinding mode, the take-up disk turns to the (B) direction as shown in Fig. 5. The detection cam swings to the (B) direction as shown in Fig. 8 and the release lever is pressed outward. The release lever does not engage with the pin which is projected from the worm gear, while the tape is running, so that the auto stop mechanism does not function.

If the PAUSE button is pressed, the stop lever as shown in Fig. 5 pushes the release lever not to engage with the pin. When the tape stops, in any mode, the release lever moves to the (C) direction as shown in Fig. 10. The projection (D) of release lever engages with the pin and the release lever is moved to the (E) direction. The release lever pushes the kick lever and the kick lever presses the push button cam to release the lock of buttons so that the mechanism becomes stop mode.

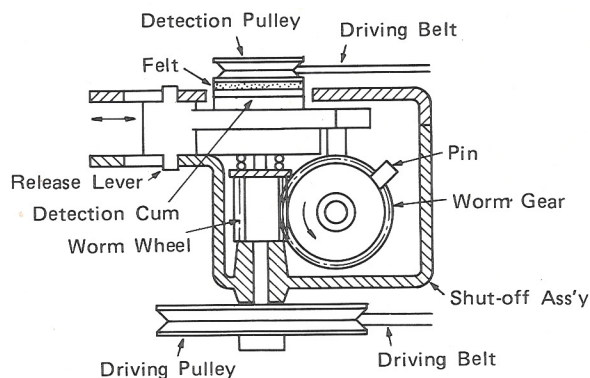


Fig. 6

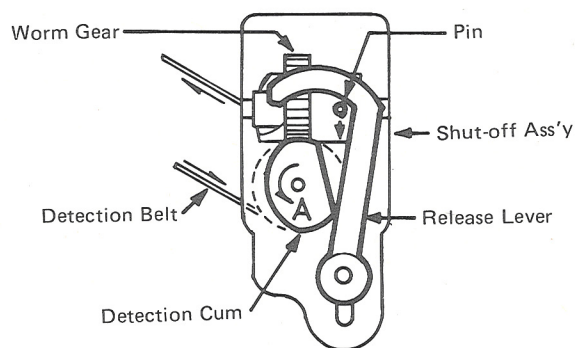


Fig. 7

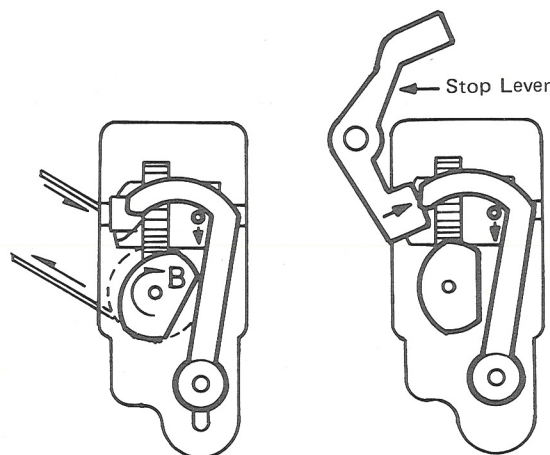


Fig. 8

Fig. 9

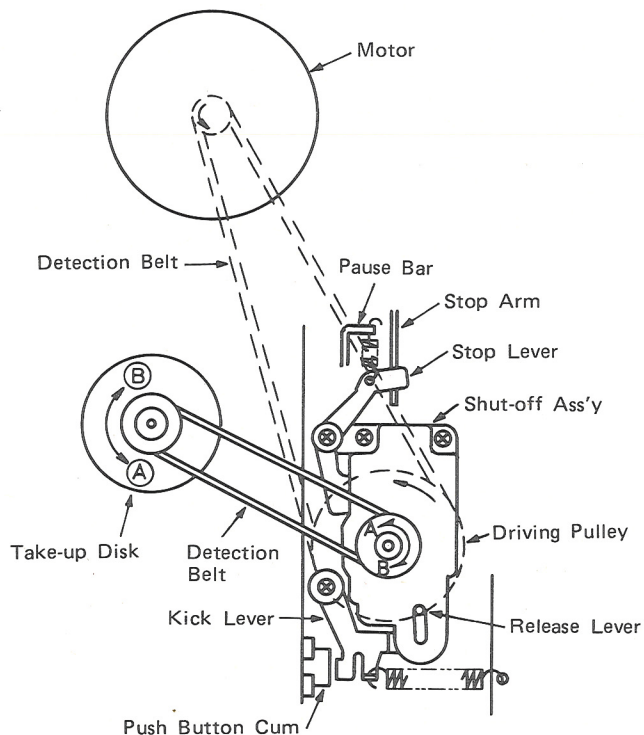


Fig. 5

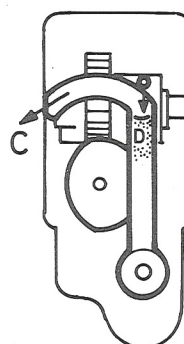


Fig. 10

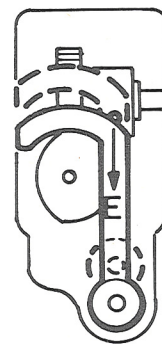


Fig. 11



# Main Parts Location

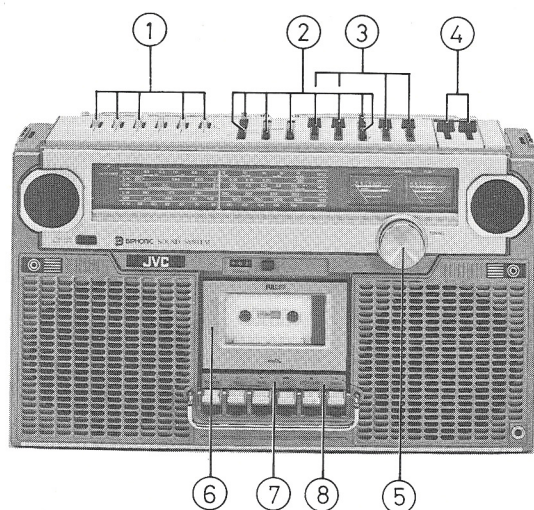


Fig. 12

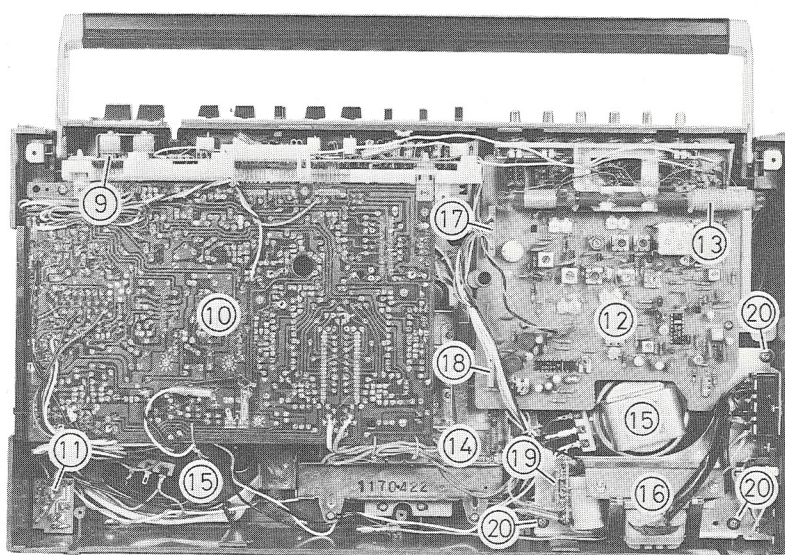


Fig. 13

| Ref. No. | Parts No.    | Parts Name              | Description               | Q'ty |
|----------|--------------|-------------------------|---------------------------|------|
| 1        | *V44980-001  | Push Button             | BAND Select               | 6    |
| 2        | *V44979-001  | Lever Cap               | FUNCTION, MODE, TAPE, REC | 6    |
| 3        | *V44976-001  | Slide Knob              | REC LEVEL, TONE           | 4    |
| 4        | *V44973-001  | "                       | VOLUME                    | 2    |
| 5        | *VXL4015-001 | Knob                    | Tuning                    | 1    |
| 6        | *ZERC828-CCA | Cassette Door Ass'y     |                           | 1    |
|          | *V31145-00A  | Cassette Door Sub Ass'y |                           | 1    |
|          | *V31146-001  | Plate                   | Glued on Door             | 1    |
| 7        | *V44932-001  | Head Cover              | Plastic                   | 1    |
| 8        | *V44955-001  | Plate                   | Glued on Head Cover       | 1    |
| 9        | *            | Circuit Board Ass'y     | Control                   | 1    |
| 10       | *            | "                       | Amplifier                 | 1    |
| 11       | *            | "                       | Headphone                 | 1    |
| 12       | *            | "                       | Tuner                     | 1    |
| 13       | *VQB016B-204 | Bar Antenna Ass'y       | L8, 9                     | 1    |
| 14       | *            | Cassette Mechanism      |                           | 1    |
| 15       | EAS16P111SD  | Speaker                 | Woofer 16cm (6½") 6Ω      | 2    |
| 16       | *            | Power Supply Ass'y      |                           | 1    |
| 17       | QMC0559-001  | Socket Ass'y            | 5-pin                     | 1    |
| 18       | QMC0359-001  | "                       | 3-pin                     | 1    |
| 19       | QMF51A2-1R0  | Fuse                    | 1AT                       | 1    |
| 20       | SBSB4012Z    | Screw                   |                           | 3    |

Note: 1. Asterisked parts (\*) show "NEW PARTS". Other parts are all "CURRENT PARTS"; therefore, check your inventory and order situation before placing new order to avoid making extra stock.

2. The circuit board assemblies, power supply assembly and whole assembly of cassette mechanism in this model will not be available as spare parts.



# Disassembly & Replacement

## Rear Cabinet (Refer to Fig.14)

1. Remove 7 screws.
2. Disconnect 4 connectors.

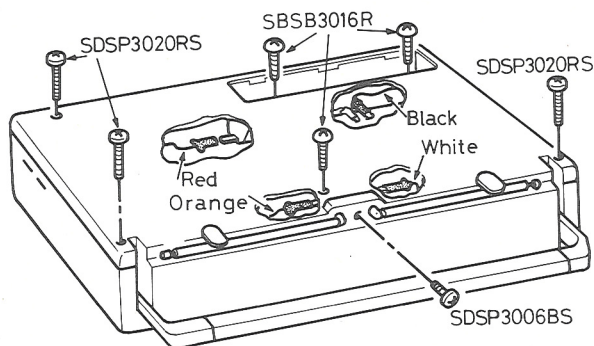


Fig. 14

## Tuner Section (Refer to Fig.15)

1. Turn the tuning knob fully counterclockwise.
2. Disconnect 3-pin plug, 5-pin plug, red wire, and black wire.
3. Remove 4 screws.

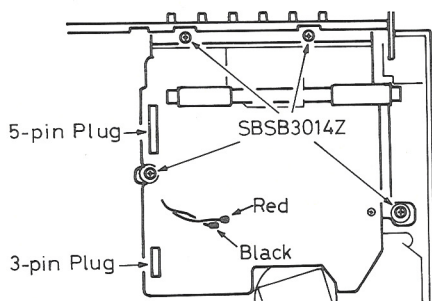


Fig. 15

## Cassette Mechanism Section (Refer to Fig. 16)

1. Pull up the plastic rivet on the cassette door.
2. Take off 6 slide knobs: REC LEVEL, TONE and VOLUME controls.
3. Remove 7 screws.

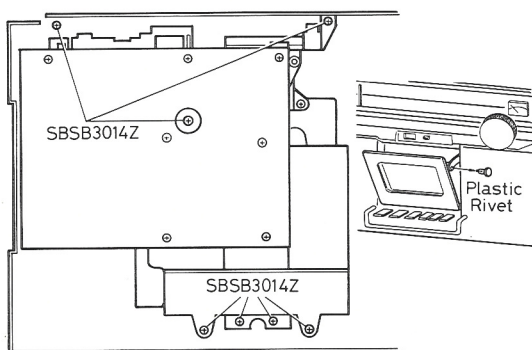


Fig. 16

## Amplifier Circuit Board (Refer to Fig.17)

1. Remove 7 screws.
2. Loosen 3 wire clamps.
3. The circuit board can be turned over to the top.

**Note:** The connecting lever of FUNCTION switch may be put out from the slider of switch, when turning over the circuit board. Check the connecting lever, when mounting the circuit board.

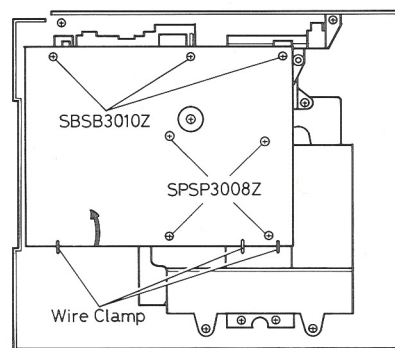


Fig. 17

## Amplifier Section with control circuit (Refer to Fig.18)

1. Remove 6 slide knobs.
2. Remove 7 screws.

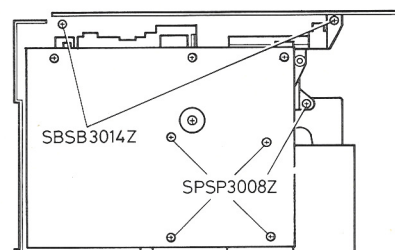


Fig. 18

## Control Circuit Board (Refer to Fig.19)

1. Take out the amplifier section.
2. Press 4 projections of chassis to release the circuit board, and then the circuit board can be turned over.

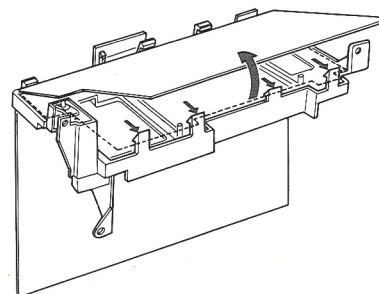


Fig. 19



### Head Cover (Refer to Fig.20)

1. Depress the CUE-button.
2. Draw the head cover with a finger by inserting the finger into the slot between the head cover and the CUE-button.

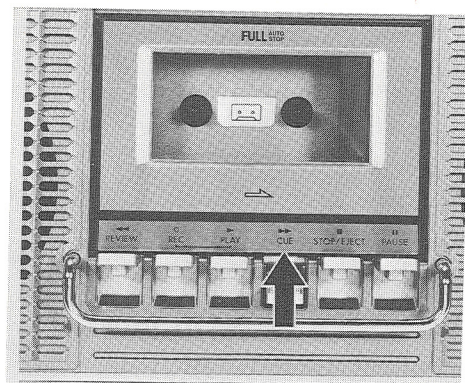


Fig. 20

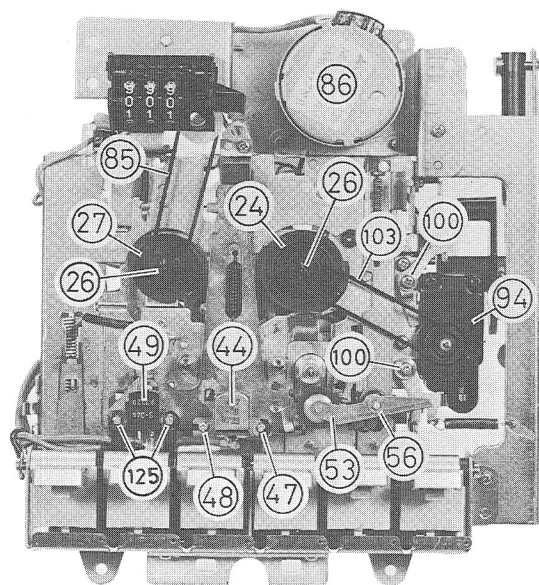


Fig. 21

### Parts of Cassette Mechanism

**Note:** Reference numbers of Figs. 21 to 23 are the same as on Fig. 55.

#### A. Erase Head (49) (Refer to Fig. 21)

Remove 2 screws (125).

#### B. Play/Record Head (44) (Refer to Fig. 21)

Remove 2 screws (47) & (48).

**Note:** When replacing the head, it is permitted to solder the signal wires directly to the head terminals though the small printed circuit boards is soldered to the terminals.

#### C. Pinch Roller Arm Ass'y (53) (Refer to Fig. 21)

Remove the E-ring (56).

#### D. Take-up (24) & Supply (27) Disks (Refer to Fig. 21)

1. Detouch the belt (103) or (85)
2. Remove the reel stopper (26).

#### E. Shut-off Ass'y (94) (Refer to Figs. 21 & 22)

1. Detouch 2 belts (103) & (102).
2. Remove 2 screws (100).

#### F. Motor (86) (Refer to Figs. 21 & 23)

Remove 3 screws (90).

#### G. Capstan Belt (81) (Refer to Fig. 22)

1. Remove the flywheel holder (74) by removing 3 screws (131).
2. Detouch the shut-off belt (102).

#### H. Flywheel (79) (Refer to Fig. 22)

Remove the flywheel holder (74) by removing 3 screws (131).

#### I. FF Arm Ass'y (28) (Refer to Fig. 23)

Remove the screw (33) after removing the flywheel (79).

#### J. Idler Ass'y (35) (Refer to Fig. 23)

Remove the screw (33) after removing the flywheel (79).

#### K. Take-up Lever Ass'y (68) (Refer to Fig. 23)

Remove the E-ring (11).

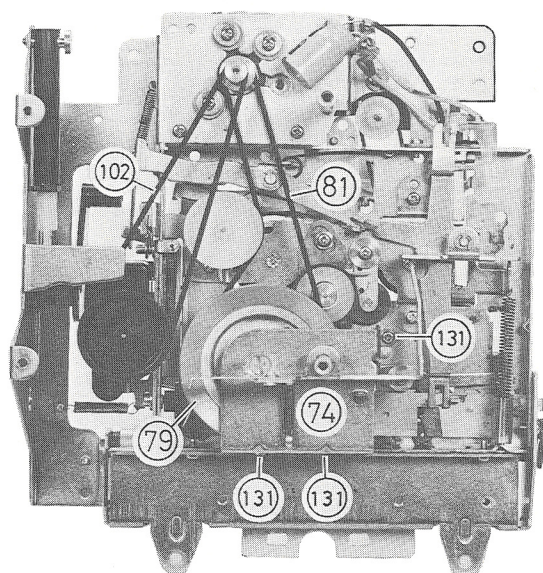


Fig. 22

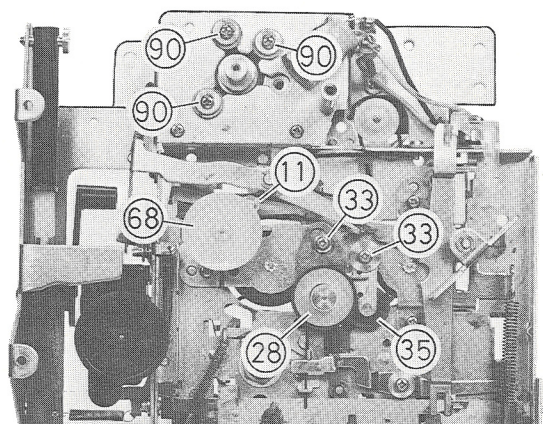


Fig. 23



# Tuner Alignment

Output Measuring: Speaker terminal (Impedance =6Ω), output level 50mW (0.55V/6Ω)

## AM IF & RF Alignment

Input (SSG) Modulation 400Hz, Modulated to 30%

| Step | Frequency Band | Input Signal   |                                   | Place to be aligned | Set the V. Capacitor to |
|------|----------------|--|-----------------------------------|---------------------|-------------------------|
|      |                | Frequency  | Given to                          |                     |                         |
| 1    | MW (IF)        | 455kHz   | Loop Antenna                      | L18,19,20           | Minimum                 |
| 2    |                | Repeat the Step 1, and adjust for no further improvement.        |                                   |                     |                         |
| 3    | MW             | 520kHz   | Loop Antenna                      | L13                 | Maximum                 |
| 4    |                | 1650kHz  |                                   | C71                 | Minimum                 |
| 5    |                | Repeat the Steps 3 & 4.  |                                   |                     |                         |
| 6    |                | 600kHz   | Loop Antenna                      | L8                  | 600kHz Signal           |
| 7    |                | 1400kHz  |                                   | C64                 | 1400kHz Signal          |
| 8    |                | Repeat the Steps 6 & 7, and adjust for no further improvement.   |                                   |                     |                         |
| 9    | LW             | 145kHz   | Loop Antenna                      | L14                 | Maximum                 |
| 10   |                | 360kHz   |                                   | C68                 | Minimum                 |
| 11   |                | Repeat the Steps 9 & 10.   |                                   |                     |                         |
| 12   |                | 160kHz   | Loop Antenna                      | L9                  | 160kHz Signal           |
| 13   |                | 350kHz   |                                   | C65                 | 350kHz Signal           |
| 14   |                | Repeat the Steps 12 & 13, and adjust for no further improvement. |                                   |                     |                         |
| 15   | SW1            | 2.2MHz   | Rod Antenna through Dummy Antenna | L15                 | Maximum                 |
| 16   |                | 6.3MHz   |                                   | C69                 | Minimum                 |
| 17   |                | Repeat the Steps 15 & 16.  |                                   |                     |                         |
| 18   |                | 2.3MHz   | Rod Antenna through Dummy Antenna | L10                 | 2.3MHz Signal           |
| 19   |                | 6.0MHz   |                                   | C66                 | 6.0MHz Signal           |
| 20   |                | Repeat the Steps 18 & 19, and adjust for no further improvement. |                                   |                     |                         |
| 21   | SW2            | 5.9MHz   | Rod Antenna through Dummy Antenna | L16                 | Maximum                 |
| 22   |                | 6.3MHz   |                                   | C70                 | Minimum                 |
| 23   |                | Repeat the Steps 21 & 22.  |                                   |                     |                         |
| 24   |                | 5.9MHz   | Rod Antenna through Dummy Antenna | L12                 | 5.9MHz Signal           |
| 25   |                | 6.3MHz   |                                   | C67                 | 6.3MHz Signal           |
| 26   |                | Repeat the Steps 24 & 25, and adjust for no further improvement. |                                   |                     |                         |
| 27   | SW3            | 5.8MHz   | Rod Antenna through Dummy Antenna | L17                 | Maximum                 |
| 28   |                | 18.6MHz  |                                   | C8                  | Minimum                 |
| 29   |                | Repeat the Steps 27 & 28.  |                                   |                     |                         |
| 30   |                | 6.0MHz   | Rod Antenna through Dummy Antenna | L11                 | 6.0MHz Signal           |
| 31   |                | 18.0MHz  |                                   | C7                  | 18.0MHz Signal          |
| 32   |                | Repeat the Steps 30 & 31, and adjust for no further improvement. |                                   |                     |                         |



### FM IF & Discriminator Alignment

Input (Sweep Generator) : TP3 (hot) & TP2

Output (Oscilloscope) : IF TP4 (hot) & TP7  
Discriminator TP6 (hot) & TP7

| Step | Mode          | Place to be aligned | Wave form |
|------|---------------|---------------------|-----------|
| 1    | IF            | L3                  | Fig. 24   |
| 2    | Discriminator | L5                  | Fig. 25   |

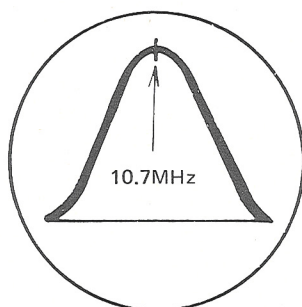


Fig. 24

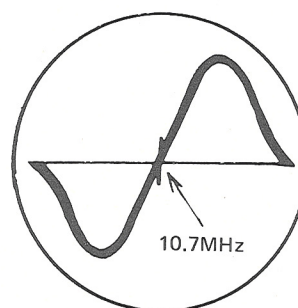


Fig. 25

### FM RF Alignment

Input (SSG): Use 75Ω terminal, modulation 400Hz modulated to 22.5kHz deviation.  
Connect Hot side to TP1 and Cold side to TP2.

| Step | Frequency Band | Input Signal   |           | Place to be aligned | Set the V. Capacitor to |
|------|----------------|--|-----------|---------------------|-------------------------|
|      |                | Frequency  | Given to  |                     |                         |
| 1    | FM             | 87.5MHz  | TP1 & TP2 | L4                  | Maximum                 |
| 2    |                | 109MHz   |           | C4                  | Minimum                 |
| 3    |                | Repeat the Steps 1 & 2.  |           |                     |                         |
| 4    |                | 90MHz  | TP1 & TP2 | L1                  | 90MHz Signal            |
| 5    |                | 106MHz   |           | C2                  | 106MHz Signal           |
| 6    |                | Repeat the Steps 4 & 5, and adjust for no further improvement. |           |                     |                         |

### FM MPX Alignment

#### A. 19kHz Alignment (regular Method)

1. Connect a frequency counter to the test point TP5.
2. Adjust the variable resistor R31 so that the frequency becomes 19kHz  $\pm$  250Hz.

#### B. 19kHz Alignment (Simplified Method)

1. Tune to a FM stereo broadcast.
2. Set the variable resistor R31 to the center position of the range in where the stereo indicator keeps lighting.

#### C. Separation Alignment

1. Connect a FM stereo signal generator across the test points TP1 & TP2.
2. Connect a V.T.V.M. or oscilloscope across the test points TP6 & TP7.
3. Adjust the variable resistor R34 to minimize the output of right channel signal.

Parts Arrangement for Alignment

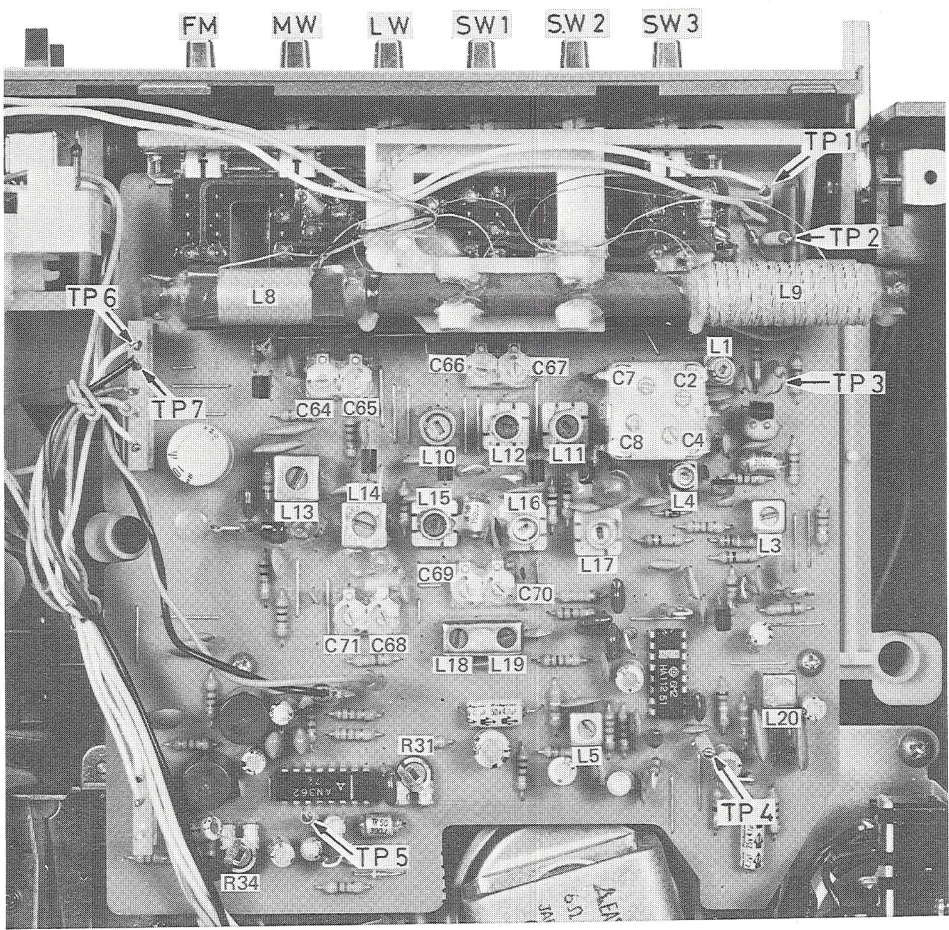
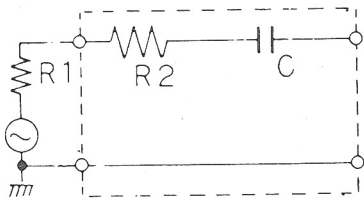


Fig. 26

Dummy Antenna



$R1 + R2 = 80\Omega$   
 $C = 10\text{pF}$   
R1: Output impedance of S.S.G.

Fig. 27



# Amplifier Alignment

FUNCTION Switch : TAPE

Mode Switches : Center Position (except Biphonic Processor Alignment)

- Note:**
1. Align in numerical order.
  2. When changing the play/record head align all items from 1. to 5.
  3. Set the slider of semi-fixed variable resistors to the center position, when replacing them, before aligning.

## 1. Azimuth Alignment

- a. Connect a dual channel oscilloscope to the output terminals of DIN socket.
- b. Playback the reference tape (10kHz, 25mM/mm, -15dB).
- c. Adjust the head azimuth so that the output signals of left and right channels become maximum and in phase.

**Note:** If the head cover is removed, the azimuth alignment can be done though the mechanism has been mounted in the cabinet. As for removing the head cover, refer to page 7.

## 2. Playback Level Alignment

- a. Connect a V.T.V.M. to the output terminals of DIN socket.
- b. Playback the reference tape (1kHz, 16mM/mm).
- c. Adjust R168 (left channel) and R268 (right channel) so that the output becomes 0.6V.

## 3. Recording Level Alignment

- a. Remove the solder on the part (A) of copper side to open circuit as shown in Fig. 28.
- b. Set the TAPE switch to NORMAL, REC switch to MANUAL and REC LEVEL controls to MAX. in the recording mode.
- c. Connect the V.T.V.M. across R108 (left) and R208 (right).

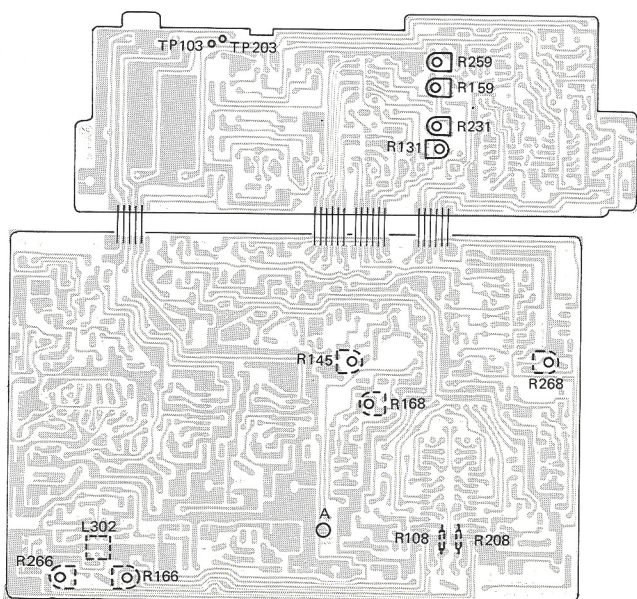


Fig. 28

- d. Supply the signal (1kHz, -60dBs) to the input terminals of DIN socket.

**Note:** Do not supply the signal to both channels at once.

- e. Adjust R131 (left) and R231 (right) so that the voltage becomes 0.7mV ( $70\mu\text{A}/10\Omega$ ).

## 4. Level Meter Alignment

- a. Follow the items a. & b. of "Recording Level Alignment".
- b. Supply the signal (1kHz, -60dBs) to both input terminals of DIN socket.
- c. Adjust the R145 so that the left and right level meters deflect to the same level.
- d. Solder the part (A).

## 5. Bias Alignment

- a. Set the BEAT cut switch to the lower position.
- b. Connect the V.T.V.M. and frequency counter across R108 and R208.
- c. Adjust L302 so that the frequency becomes 71kHz in the recording mode.
- d. Adjust R166 (left) and R266 (right) so that the voltages become 5.4mV ( $540\mu\text{A}/10\Omega$ ).

## 6. Biphonic Processor Alignment

- a. Set the MODE switches to BIPHONIC PROCESS and BINAURAL → BIPHONIC position and set the TONE controls to the center position (click stopped).
- b. Connect a dual channel V.T.V.M. to the test points TP103 (left) and TP203 (right).
- c. Supply the signal (125Hz, -70 dBs) to the left input terminal of DIN socket.
- d. Adjust R159 so that the right channel output is less than left channel output by 2.5dB.
- e. After left channel alignment, supply the signal to the right input terminal of DIN socket and adjust R259 as the same steps as R159.

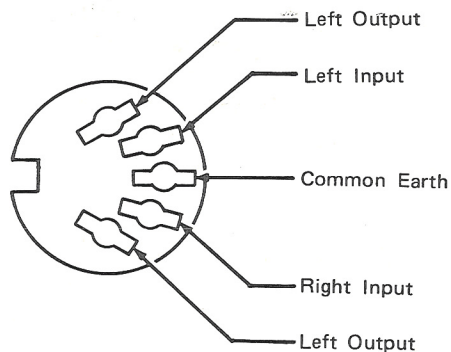


Fig. 29

# Adjustment of Cassette Mechanism

## TIMING OF MAIN SWITCH & BRAKING (Refer to Fig. 30)

1. Check to see that the main switch turns on after the brake of take-up and supply disks has been released, if the PLAY, CUE or REVIEW button is gradually pressed.
2. If the timing is out of order, check that the clearance (D) between the brake lever and the projection of push button cam is approximately 0.2mm, in the stop mode. If the clearance is less than 0.2mm, bend the part (1) of brake lever to the (A) direction. Bend the part (2) of brake lever to (B) or (C) direction so that the brake lever contacts slightly with the actuator of main switch to adjust the timing of main switch. After adjustment check that the main switch turns off in the stop mode.
3. If the brake does not actuate optimally, bend the part (3) of stop arm to (F) direction.

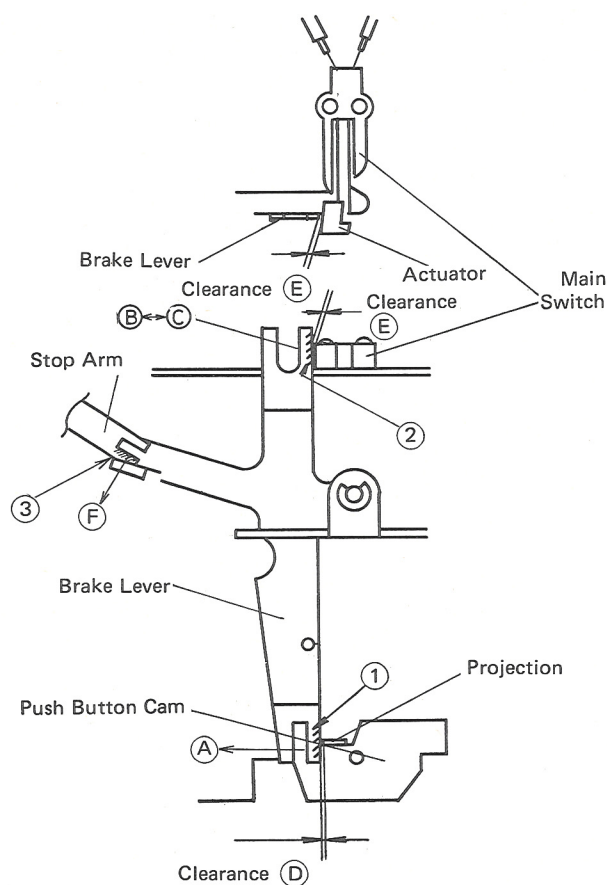


Fig. 30

## THRUST OF FLYWHEEL (Refer to Fig. 31)

The clearance between the top of flywheel shaft and the thrust screw should be within 0.2 to 0.4mm. If the clearance is out of limit, adjust the thrust screw for normal value.

**Note:** After adjustment fix the thrust screw with lock adhesive.

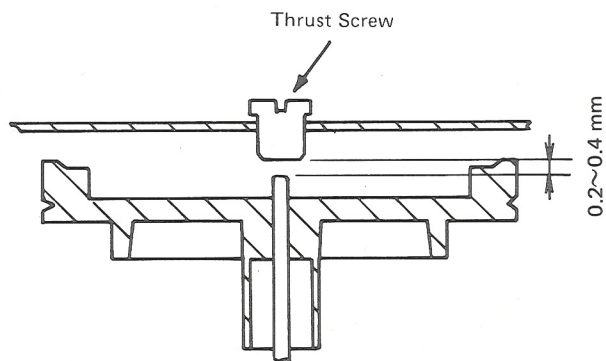


Fig. 31

## AUTO STOP MECHANISM (Refer to Fig. 32)

Check that the control button returns its normal position after the tape has stopped, in every modes, playback, recording, F.F. and rewinding.

1. If the kick lever does not press the push button cam, though the kick lever is swung, bend the part (1) of kick lever to the (A) direction to adjust the stroke of kick lever.
2. In the recording mode, if the kick lever does not return to its original position, though the stop mechanism has functioned normally, bend the part (1) of kick lever to the (B) direction.
3. If the mechanism stops automatically while the tape is running or does not stop when the tape stops, change the shut-off assembly.
4. Check that the mechanism does not stop, in every modes, while the PAUSE button is pressed.

**Note:** If the part (1) is excessively bended to the (A) direction the release lever inside the shut-off assembly may not return its normal position.



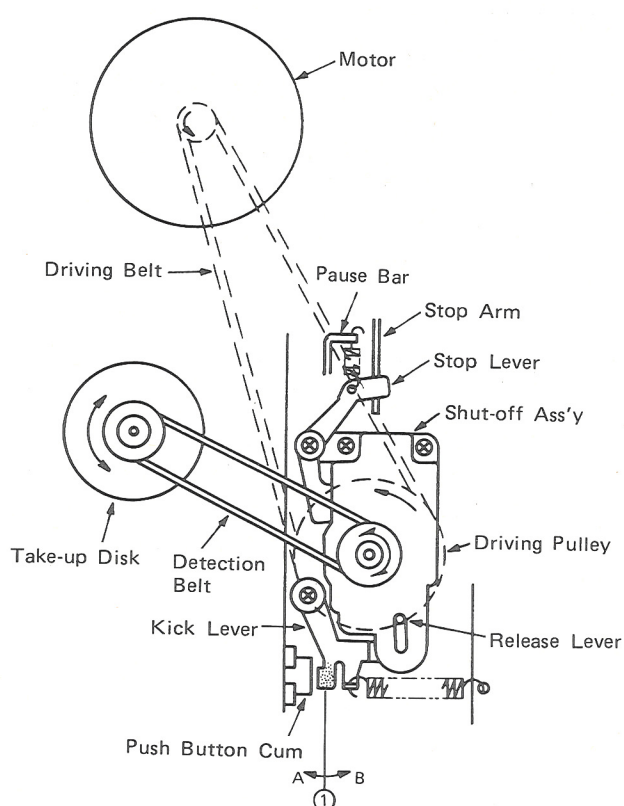


Fig. 32

### PAUSE MECHANISM (Refer to Fig. 33)

1. In the playback mode, check to see that the pinch roller separates from the capstan and the take-up idler separates from the take-up disk when the PAUSE button has been pressed.
2. If the pinch roller separates extremely earlier than the take-up idler, bend the part (1) of pause bar to the (A) direction.
3. If the pinch roller separates later than the take-up idler, bend the part (1) to the (B) direction.

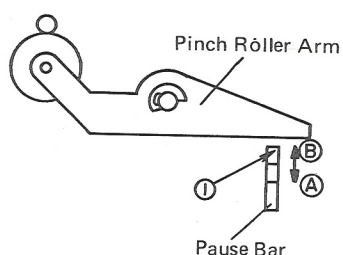


Fig. 33

### CUE & REVIEW MECHANISM (Refer to Fig. 34)

1. Timing
  - a. In the playback mode, if the CUE or REVIEW button is gradually pressed, the take-up idler separates from the take-up disk after the pinch roller has separated from the capstan and the take-up disk temporarily stops turning and then the tape is fast forwarded or rewinded.
  - b. When the CUE or REVIEW button is gradually released, the take-up disk turns first and then the pinch roller turns after the tape has temporarily stopped. The mechanics becomes the playback mode.
  - c. Check that the tape is not fast forwarded or projected from the cassette half at the beginning of cue or review action.
2. Adjustment of timing
  - a. If the tape is projected from the cassette half at the beginning of cue or review action, the take-up idler separates from the take-up disk before the pinch roller has separated from the capstan. Adjust the timing by bending the part (1) of slide base to the (A) direction.
  - b. If the tape is fast forwarded at the beginning of cue or review action, bend the part (1) to the (B) direction.
  - c. After adjustment, check that the gap (C) exists between the take-up idler arm and the slide base in the playback mode.

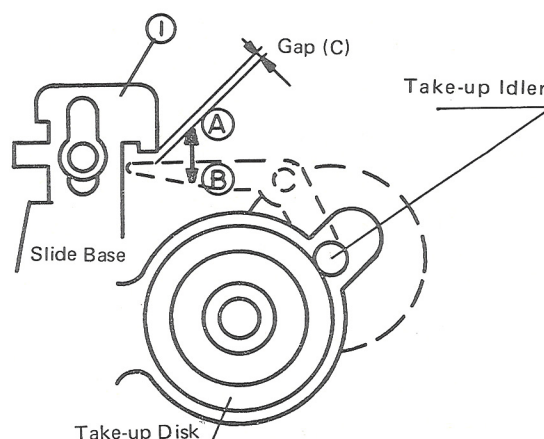


Fig. 34

## LOCATION OF HEADS

The play/record and erasing heads should be positioned as follows.

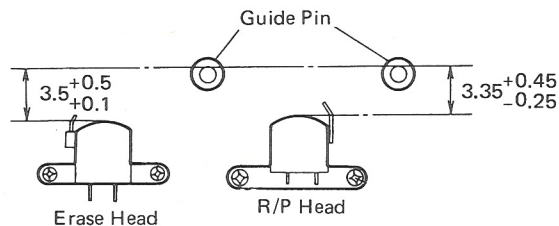


Fig. 35

## TAPE SPEED (Refer to Fig. 36)

1. The tape speed should be within 2940Hz (-2%) to 3090Hz (+3%) by reference tape.
2. If the speed is out of limit, adjust it by inserting the small screw-driver into the adjusting hole of motor.
  - a. If the speed is less than -2% turn the driver clockwise.
  - b. If the speed is over +3%, turn the driver counterclockwise.

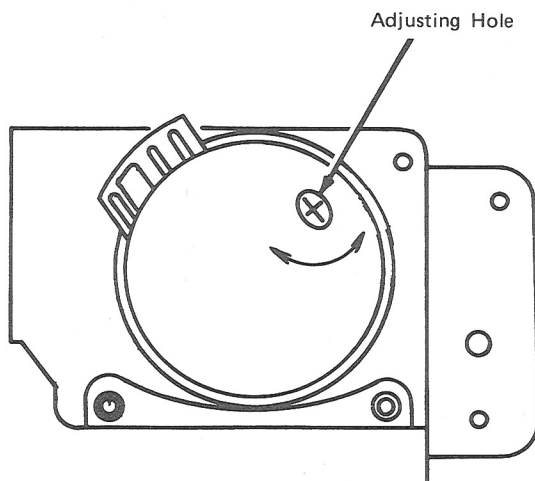


Fig. 36

## TORQUE

### 1. Playback Torque

In the playback mode, the take-up torque of take-up disk should be within 40 to 70g.cm.

If the torque is out of limit, clean the rubber part of take-up disk or change the take-up disk.

### 2. F.F. Torque

In the F.F. mode, the take-up torque of take-up disk should be more than 60g.cm.

If the torque is less than 60g.cm, clean the rubber part of F.F. idler or change the F.F. arm assembly.

### 3. Rewind Torque

In the rewind mode, the winding torque of supply disk should be more than 60g.cm.

If the torque is less than 60g.cm, clean the rubber parts of F.F. idler and rewind idler or change the F.F. arm assembly or rewind idler.



# How to Fit Dial Cord

## 1. Front Cabinet Section

- Dial Cord:  $\phi 0.5 \times 1505\text{mm}$  (20 mil  $\times$  59-1/4")  
(filament: Kevlar, braided sheath: Tetoron)
- Turn the dial drum fully clockwise and fit the cord in numerical order as shown in Fig. 37.
- Fix the needle to the cord as shown in Fig. 38.
- Adjust the starting point : turn the tuning knob fully counterclockwise and set the pointer of needle to the starting point of dial scale (refer to Fig. 39).

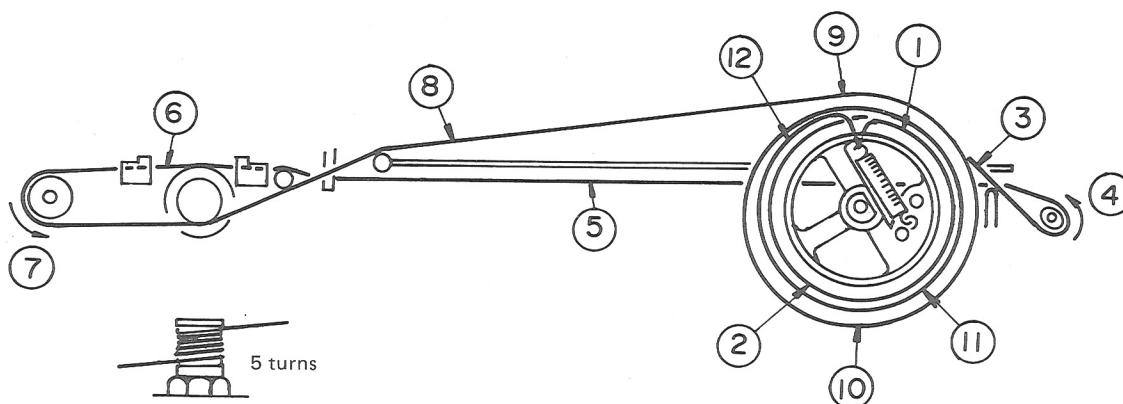


Fig. 37

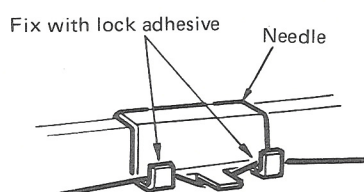


Fig. 38

## 2. Tuner Chassis Section

- Dial Cord:  $\phi 0.5 \times 1160\text{mm}$  (20 mil  $\times$  45-1/4")  
filament: kevlar, braided sheath. Tetoron
  - Turn the left dial drum mounted on the variable capacitor fully counterclockwise and the right drum clockwise (refer to Fig. 40).
  - Fit the cord in numerical order as shown in Fig. 41.
- Note:** When mounting the tuner section to the cabinet, turn the dial drum of cabinet fully counterclockwise and the right drum of tuner chassis fully clockwise.

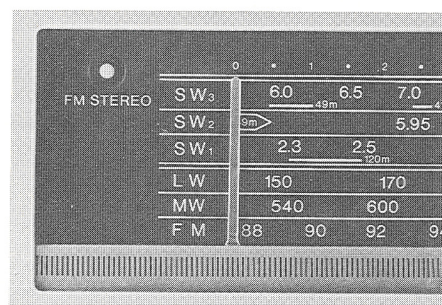


Fig. 39

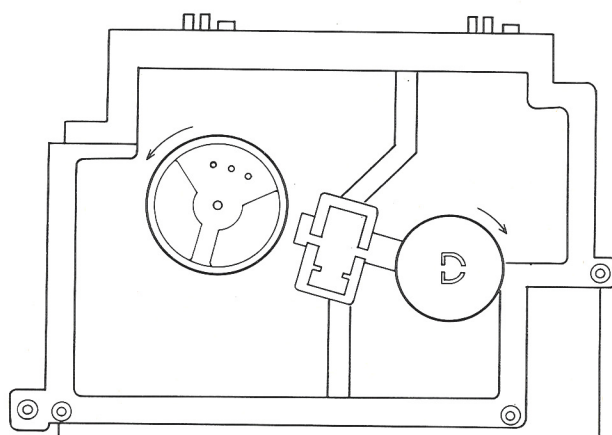


Fig. 40

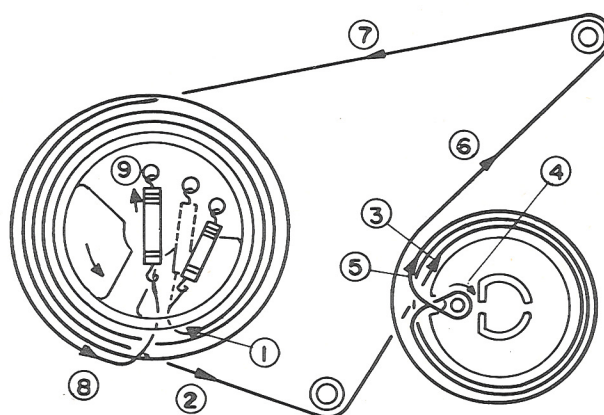


Fig. 41

# Block Diagram

## Tuner Section

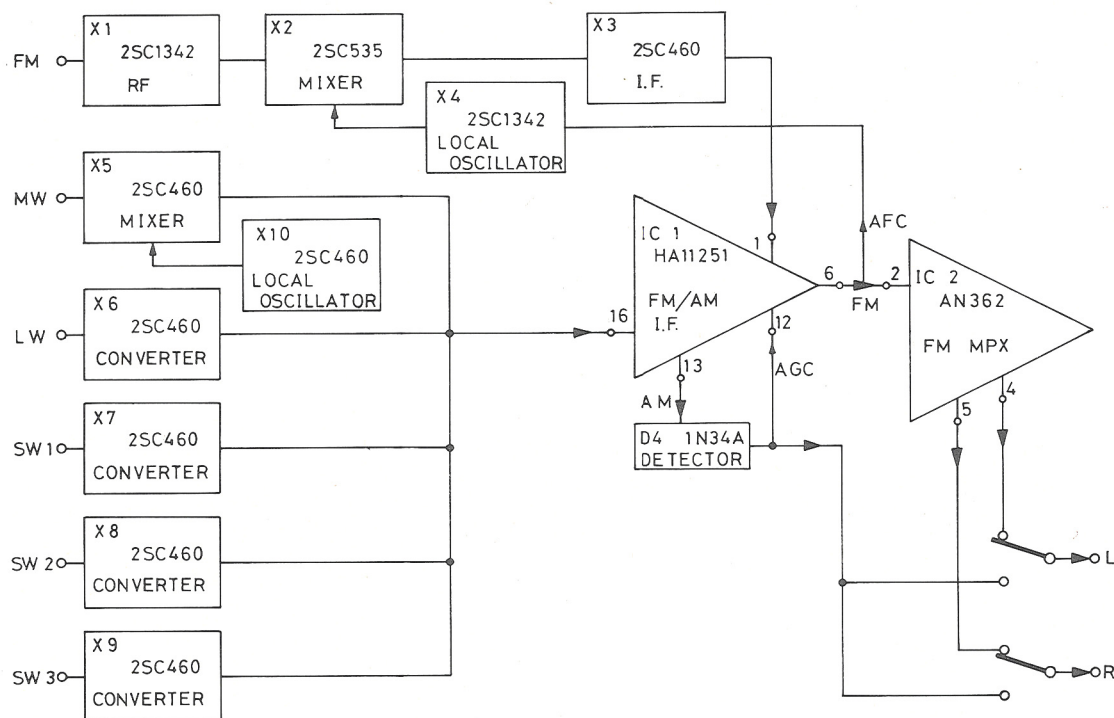


Fig. 42

## Playback Mode

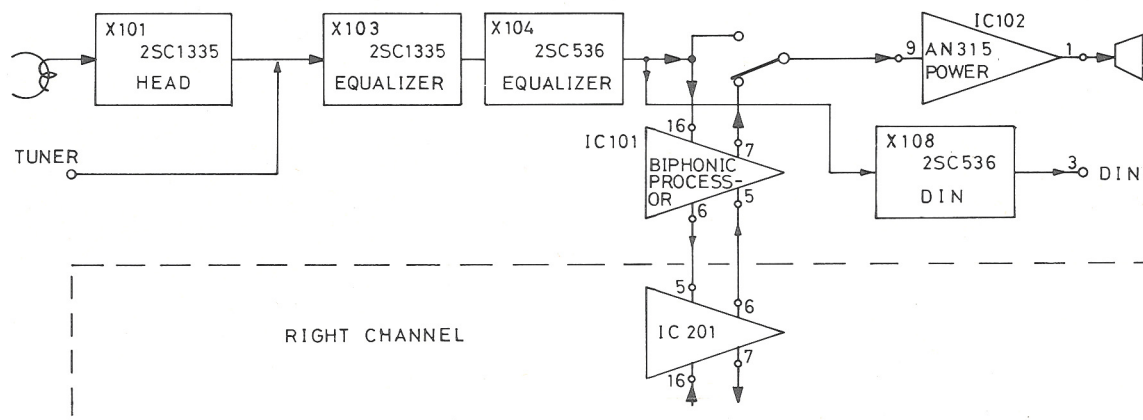


Fig. 43

## Recording Mode

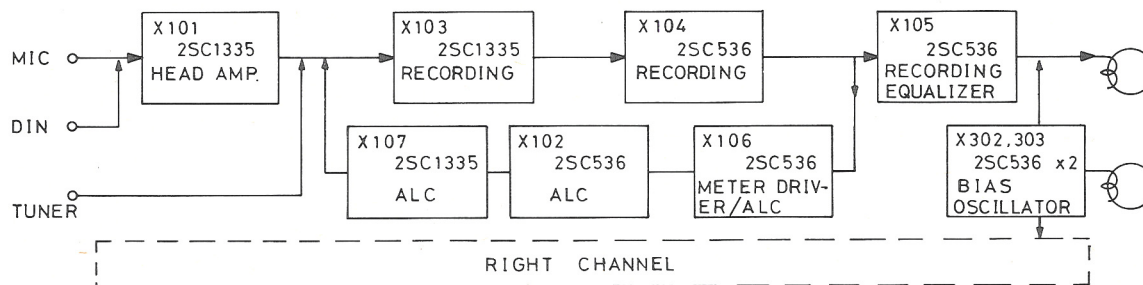


Fig. 44



# Wiring Connection

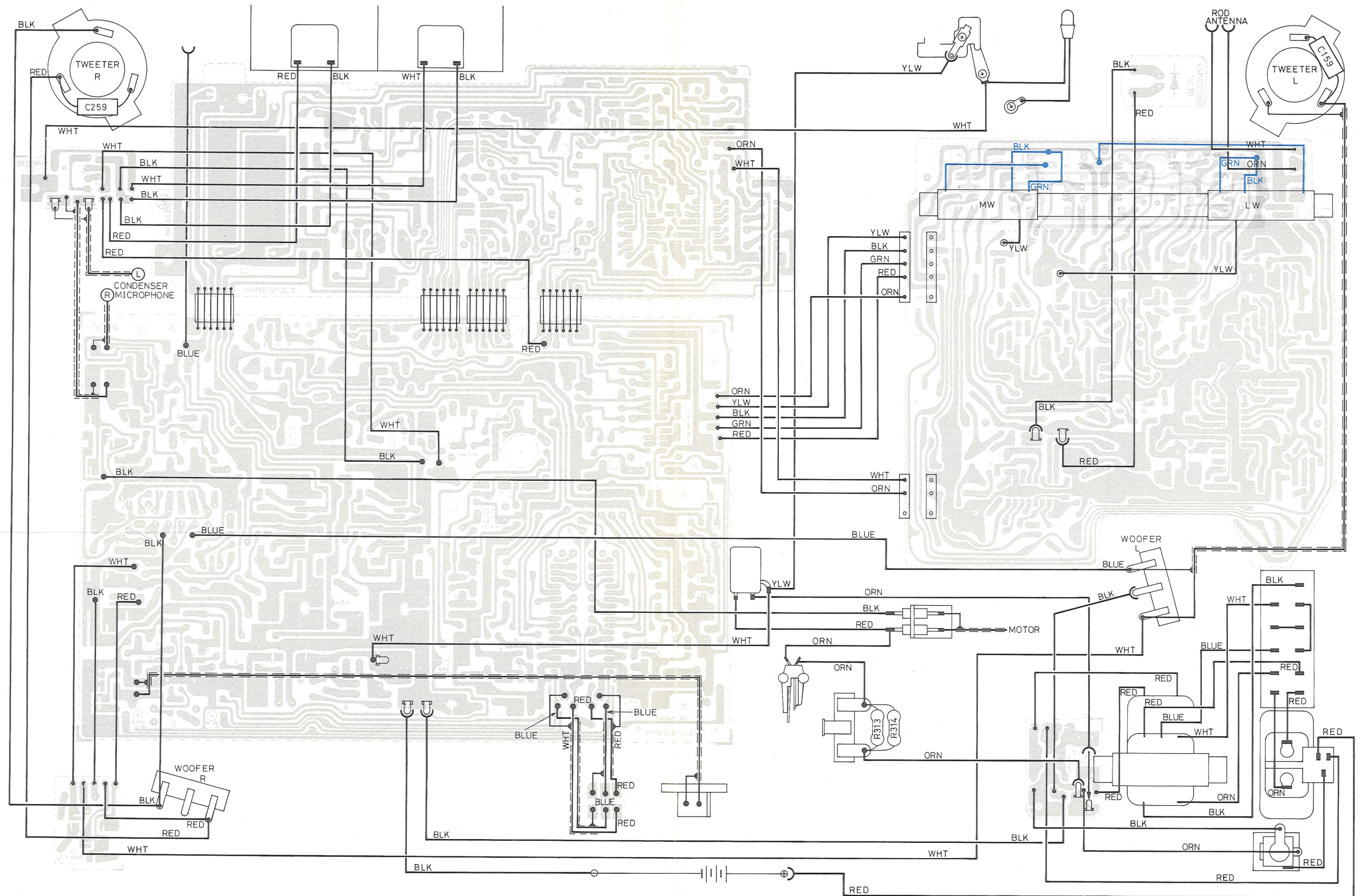


Fig. 45



## Schematic Diagram of RC-828L/LB (Tuner)

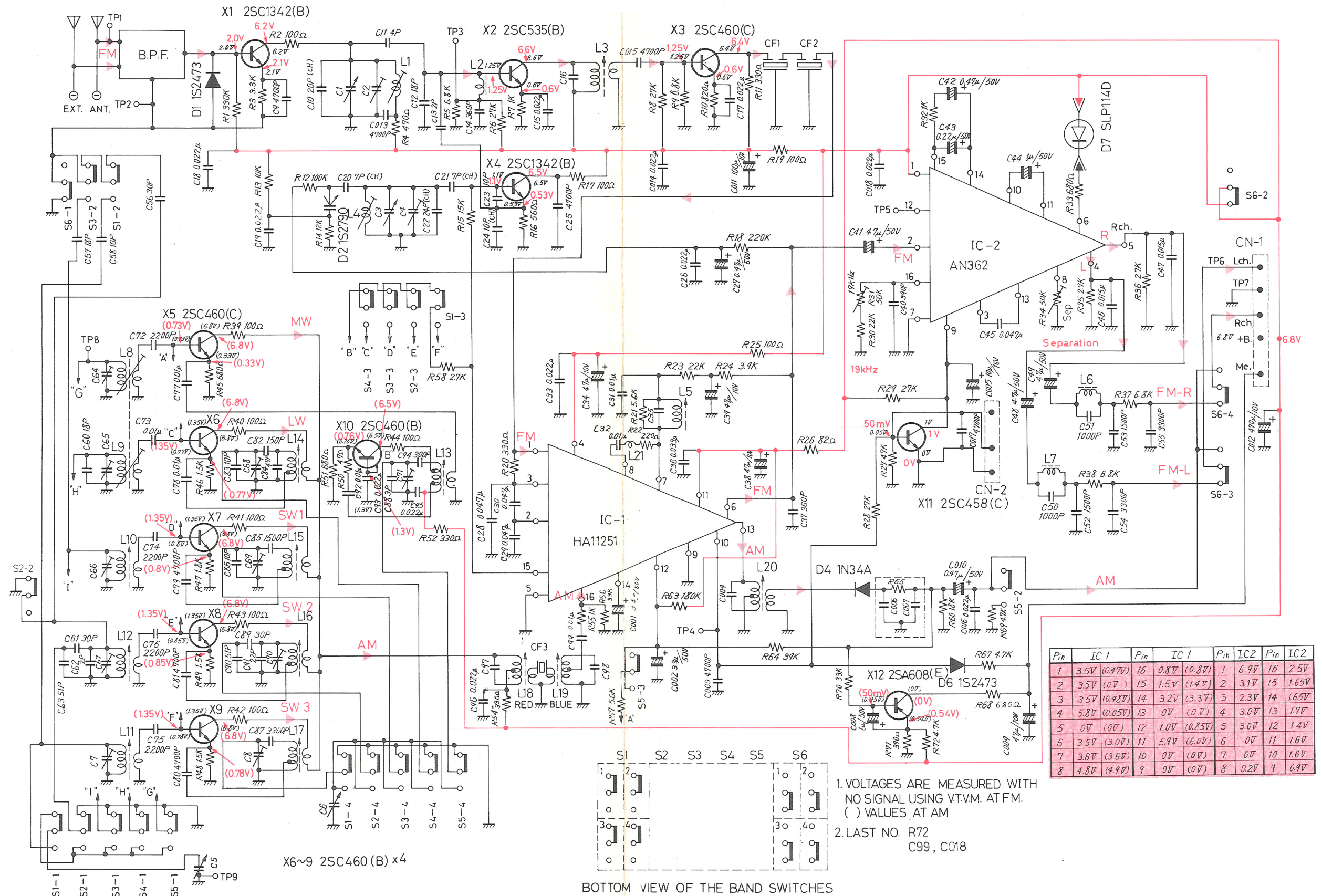


Fig. 46



# Schematic Diagram of RC-828L/LB (Amplifier)

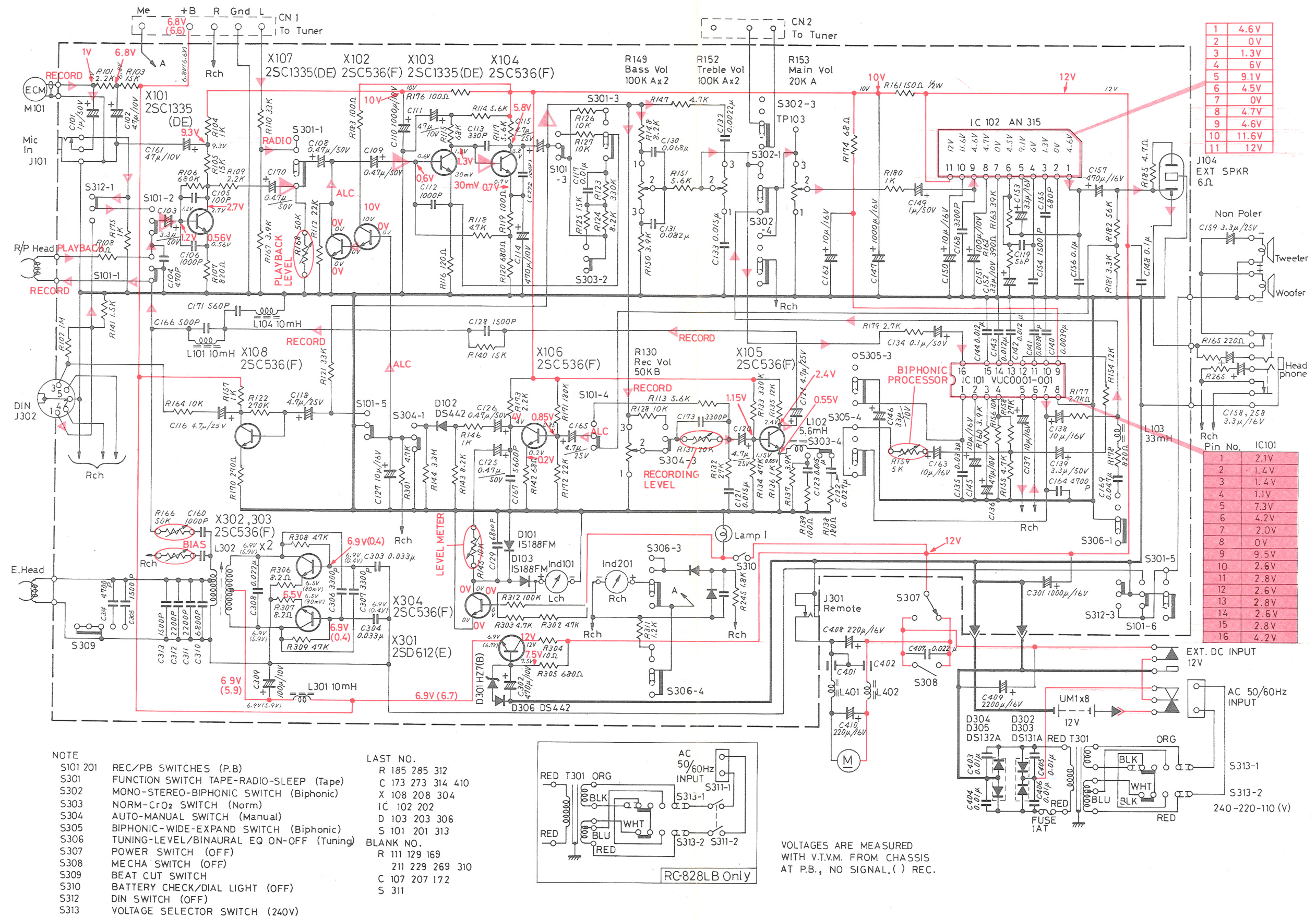


Fig. 47



# Tuner Circuit Board Ass'y

TOP

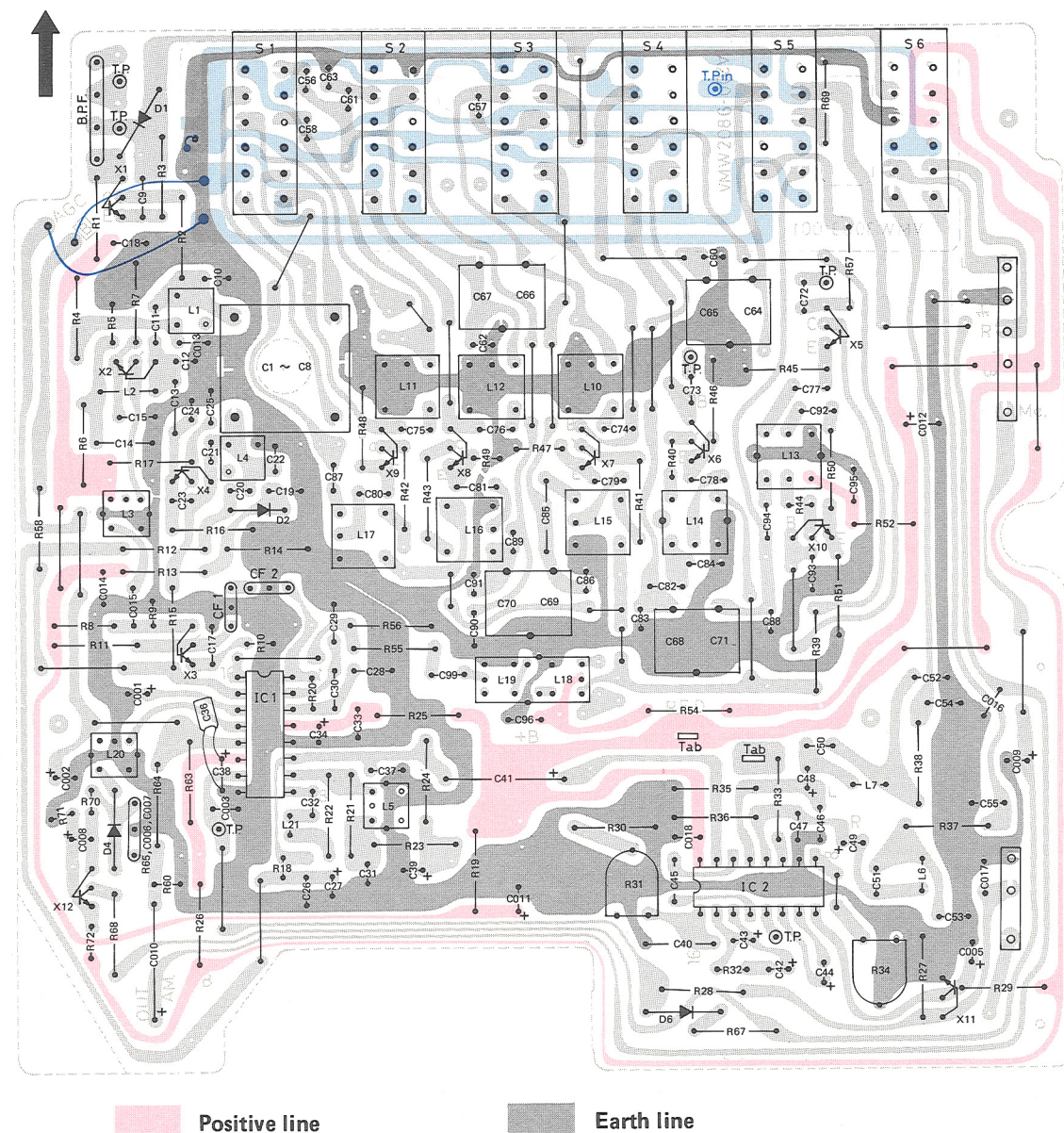


Fig. 48

Note: The circuit board assembly will not be available as spare part.

## Transistors

| Ref. No.    | Parts No.  | Description       | Pc   | f <sub>T</sub> |
|-------------|------------|-------------------|------|----------------|
| X1,4        | 2SC1342(B) | Silicon (HITACHI) | 0.1W | 250MHz         |
| X2          | 2SC535(B)  | " ( " )           | "    | 940MHz         |
| X3,5        | 2SC460(C)  | " ( " )           | 0.2W | 230MHz         |
| X6,7,8,9,10 | 2SC460(B)  | " ( " )           | "    | "              |
| X11         | 2SC458(C)  | " ( " )           | "    | "              |
| X12         | 2SA608(E)  | (SANYO)           | 0.1W | 180MHz         |

## ICs & Diodes

Arsterisked parts (\*) show new parts

| Ref. No. | Parts No. | Parts Name                 | Description |
|----------|-----------|----------------------------|-------------|
| IC1      | *HA11251  | Integrated Circuit         | HITACHI     |
| IC2      | AN362     | "                          | MATSUSHITA  |
| D1,6     | 1S2473    | Silicon Diode              | TOYO DENGU  |
| D2       | 1S2790    | Variable Capacitance Diode | HITACHI     |
| D4       | 1N34A     | Germanium Diode            | "           |

## Resistors

| Ref. No.     | Parts No.   | Parts Name | Description  |
|--------------|-------------|------------|--------------|
| R1           | QRD141K-334 | Carbon     | 330kΩ ¼W     |
| R2,17,19,25  | " -101      | "          | 100Ω "       |
| R3           | " -332      | "          | 3.3kΩ "      |
| R4           | " -471      | "          | 470Ω "       |
| R5           | " -682      | "          | 6.8kΩ "      |
| R6           | " -273      | "          | 27kΩ "       |
| R7           | " -102      | "          | 1kΩ "        |
| R8           | QRD143K-273 | "          | 27kΩ "       |
| R9           | " -682      | "          | 6.8kΩ "      |
| R10          | " -821      | "          | 820Ω "       |
| R11          | QRD141K-331 | "          | 330Ω "       |
| R12          | " -104      | "          | 100kΩ "      |
| R13          | " -103      | "          | 10kΩ "       |
| R14          | " -123      | "          | 12kΩ "       |
| R15          | " -153      | "          | 15kΩ "       |
| R16          | " -561      | "          | 560Ω "       |
| R18          | QRD143K-224 | "          | 220kΩ "      |
| R20          | " -331      | "          | 330Ω "       |
| R21          | QRD141K-562 | "          | 5.6kΩ "      |
| R22          | " -221      | "          | 220Ω "       |
| R23,30       | " -223      | "          | 22kΩ "       |
| R24          | " -392      | "          | 3.9kΩ "      |
| R26          | " -820      | "          | 82Ω "        |
| R27          | " -473      | "          | 47kΩ "       |
| R28,29       | " -273      | "          | 27kΩ "       |
| R31,34       | QVP8A0B-014 | Variable   | 10kΩ B-curve |
| R32          | QRD143K-102 | Carbon     | 1kΩ ¼W       |
| R33,45,51    | QRD141K-681 | "          | 680Ω "       |
| R35,36       | " -272      | "          | 2.7kΩ "      |
| R37,38       | " -682      | "          | 6.8kΩ "      |
| R39,41,42,43 | " -101      | "          | 100Ω "       |
| R40,44       | QRD143K-101 | "          | " "          |
| R46,48       | QRD141K-152 | "          | 1.5kΩ "      |
| R47          | QRD143K-182 | "          | 1.8kΩ "      |
| R49          | " -152      | "          | 1.5kΩ "      |
| R50          | QRD141K-470 | "          | 47Ω "        |
| R52          | QRD143K-331 | "          | 330Ω "       |



| Ref. No. | Parts No.   | Parts Name | Description       |
|----------|-------------|------------|-------------------|
| R54      | QRD141K-331 | Carbon     | 330Ω ¼W           |
| R55      | " -102      | "          | 1kΩ "             |
| R56      | " -333      | "          | 33kΩ "            |
| R57      | " -562      | "          | 5.6kΩ "           |
| R58      | " -272      | "          | 2.7kΩ "           |
| R60      | QRD143K-183 | "          | 18kΩ "            |
| R63      | QRD141K-184 | "          | 180kΩ "           |
| R64      | " -393      | "          | 39kΩ "            |
| R65      | 03126-15    | CR Block   | includes C006,007 |
| R67,69   | QRD141K-472 | Carbon     | 4.7kΩ ¼W          |
| R68      | " -681      | "          | 680Ω "            |
| R70      | QRD143K-333 | "          | 33kΩ "            |
| R71      | " -391      | "          | 390Ω "            |
| R72      | " -472      | "          | 4.7kΩ "           |

## Capacitors

| Ref. No.     | Parts No.   | Parts Name   | Description |
|--------------|-------------|--------------|-------------|
| C1~8         | QAP1224-504 | Variable     |             |
| C9,25        | QCF11EZ-472 | Ceramic      | 4700pF 25V  |
| C10          | QCT05CH-200 | "            | 20pF 50V    |
| C11          | QCS11HJ-4R0 | "            | 4pF "       |
| C12          | " -180      | "            | 18pF "      |
| C13          | " -2R0      | "            | 2pF "       |
| C14          | QFS21HJ-361 | Polystyrol   | 360pF "     |
| C15,17,19    | QCF11EZ-223 | Ceramic      | 0.022μF 25V |
| C18          | QFM41HM-223 | Mylar        | " 50V       |
| C20,21       | QCT05CH-7R0 | Ceramic      | 7pF "       |
| C22          | " -240      | "            | 24pF "      |
| C23          | QCS11HJ-100 | "            | 10pF "      |
| C24          | QCT05CH-100 | "            | " "         |
| C26,33       | QCF11EZ-223 | "            | 0.022μF 25V |
| C27          | QEW41HA-474 | Electrolytic | 0.47μF 50V  |
| C28,29,30,45 | QFM41HM-473 | Mylar        | 0.047μF "   |
| C31,32       | QCF11EZ-103 | Ceramic      | 0.01μF 25V  |
| C34,38,39    | QEW41AA-476 | Electrolytic | 47μF 10V    |
| C36          | QFM41HM-333 | Mylar        | 0.033μF 50V |
| C37          | QCS11HJ-361 | Ceramic      | 360pF "     |
| C40          | QFS21HJ-391 | Polystyrol   | 390pF "     |
| C41          | QEW21EA-475 | Electrolytic | 4.7μF 25V   |
| C42          | QEC81HM-474 | "            | 0.47μF 50V  |
| C43          | QEC81HM-224 | "            | 0.22μF "    |
| C44          | QEW41HA-105 | "            | 1μF "       |
| C46,47       | QFM41HM-153 | Mylar        | 0.015μF "   |
| C48,49       | QEW41EA-475 | Electrolytic | 4.7μF 25V   |
| C50,51       | QCY41HK-102 | Ceramic      | 1000pF 50V  |
| C52,53       | " -152      | "            | 1500pF "    |
| C54,55       | " -332      | "            | 3300pF "    |
| C56,61       | QCS11HJ-300 | "            | 30pF "      |
| C57,60       | " -180      | "            | 18pF "      |
| C58          | " -100      | "            | 10pF "      |
| C62          | " -2R0      | "            | 2pF "       |
| C63          | " -510      | "            | 51pF "      |
| C64-65,66-67 | QAT2002-001 | Trimmer      |             |
| C68-71,69-70 |             |              |             |
| C72 74,75 76 | QCY41HK-222 | Ceramic      | 2200pF 50V  |
| C73,99       | QCF11EZ-103 | "            | 0.01μF 25V  |
| C77,78 92    | QCY41EK-103 | "            | " "         |
| C79,80,81    | QCY41HK-472 | "            | 4700pF 50V  |

| Ref. No.     | Parts No.   | Parts Name   | Description  |
|--------------|-------------|--------------|--------------|
| C82          | QFS41HJ-151 | Polystyrol   | 150pF 50V    |
| C83,86       | QCS11HJ-100 | Ceramic      | 10pF "       |
| C84          | " -470      | "            | 47pF "       |
| C85          | QFS21HJ-152 | Polystyrol   | 1500pF "     |
| C87          | QFS41HJ-332 | "            | 3300pF "     |
| C88          | QCS11HJ-3R0 | Ceramic      | 3pF "        |
| C89          | QCT05CH-300 | "            | 30pF "       |
| C90          | QCS11HJ-510 | "            | 51pF "       |
| C91          | QCT05CH-220 | "            | 22pF "       |
| C93,96       | QCF11EZ-223 | "            | 0.022μF 25V  |
| C94          | QFS41HJ-301 | Polystyrol   | 300pF 50V    |
| C95          | QFM41HM-223 | Mylar        | 0.022μF "    |
| C001,002     | QEW41HA-335 | Electrolytic | 3.3μF "      |
| C003         | QCF11EZ-472 | Ceramic      | 4700pF 25V   |
| C005         | QEW41CA-106 | Electrolytic | 10μF 16V     |
| C006,007     | 03126-15    | CR Block     | includes R65 |
| C008         | QEW41HA-105 | Electrolytic | 1μF 50V      |
| C009         | QEW41AA-476 | "            | 47μF 10V     |
| C010         | QEW21HA-474 | "            | 0.47μF 50V   |
| C011         | QEW41AA-107 | "            | 100μF 10V    |
| C012         | " -477      | "            | 470μF "      |
| C013,015,017 | QCF11EZ-472 | Ceramic      | 4700pF 25V   |
| C014,016     | QFM41HM-223 | Mylar        | 0.022μF 50V  |
| C018         | QCF11EZ-223 | Ceramic      | " 25V        |

## Others

Asterisked parts (\*) show new parts

| Ref. No. | Parts No.    | Parts Name       | Description |
|----------|--------------|------------------|-------------|
| B.P.F.   | *VBP3M4E-001 | Band Pass Filter | FM Antenna  |
| CF1,2    | V03059-3     | Ceramic Filter   | FM I.F.     |
| L1       | *V03105-030  | Coil             | FM RF       |
| L2       | 03226-1K     | Inductor         | FM IF Trap  |
| L3,5     | V03068-7     | I.F.T.           | FM          |
| L4       | *V03105-029  | Coil             | FM Osc.     |
| L6,7     | 03226-18     | Inductor         |             |
| L10      | *VQR1001-208 | Coil             | SW1 Antenna |
| L11      | " -202       | "                | SW3 "       |
| L12      | " -207       | "                | SW2 "       |
| L13      | VQM1T03-201  | "                | MW Osc.     |
| L14      | 46923-42     | "                | LW "        |
| L15      | V03101-12    | "                | SW1 "       |
| L16,17   | 03160-74     | "                | SW2,3 Osc.  |
| L18,19   | V03067-026   | I.F.T.           | AM          |
| L20      | -025         | "                | "           |
| L21      | 03226-024    | Inductor         |             |
| S1~6     | *QSP0261-007 | Push Switch      | BAND        |
| T.Pin    | A74138-2     | Test Pin         |             |
| T.P.     | V04041-1     | Test Point       |             |
| Tab      | V43895-1     | Tab              |             |
|          | QMC0529-001  | Plug             | 5-pin       |
|          | QMC0329-001  | "                | 3-pin       |



# Amplifier Circuit Board Ass'y

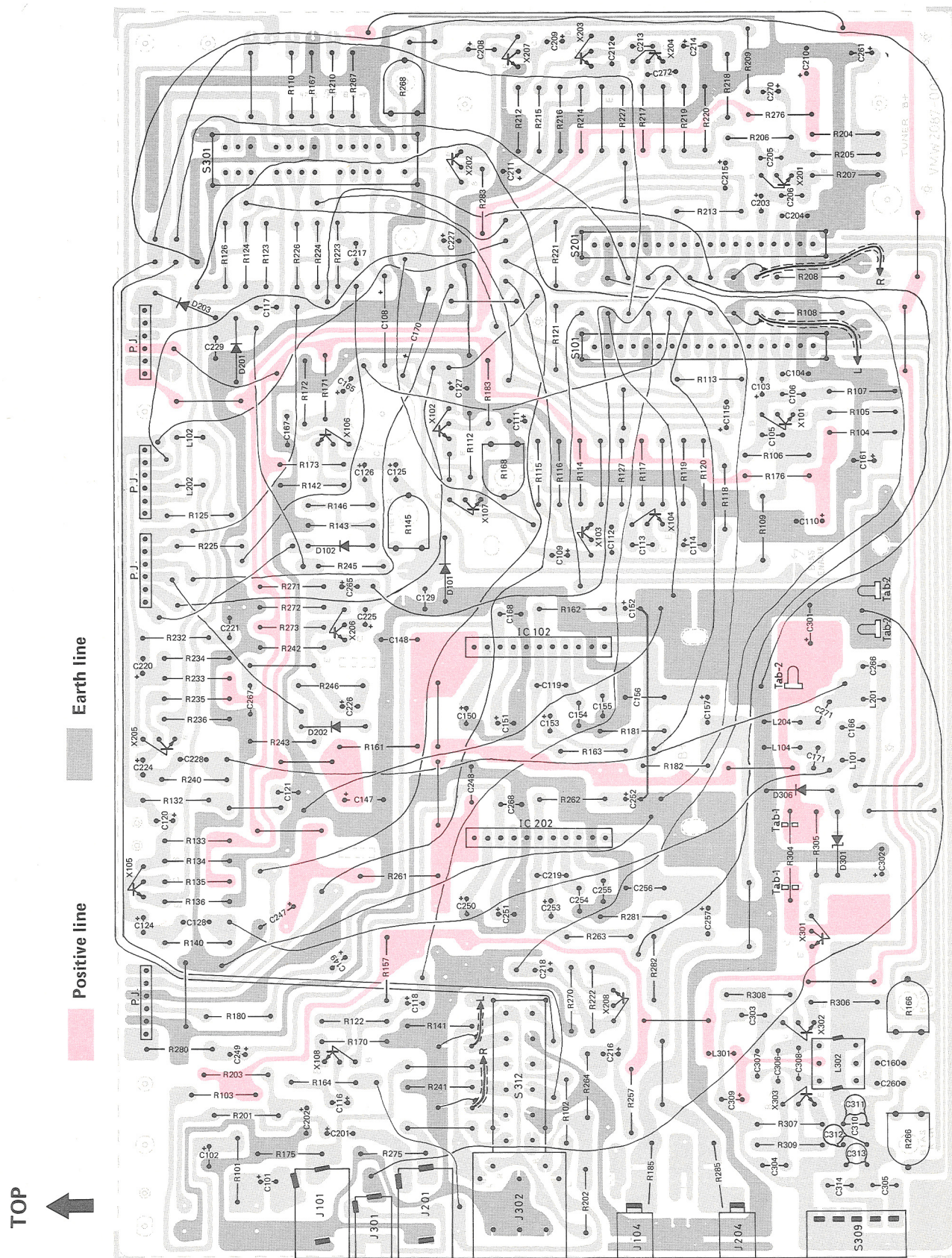


Fig. 49

Note: The circuit board assembly will not be available as spare part.

## Transistors

| Ref. No.         | Parts No.    | Description       | Pc    | fT     |
|------------------|--------------|-------------------|-------|--------|
| X101,103,201,203 | 2SC1335(DE)  | Silicon (HITACHI) | 0.2W  | 230MHz |
| X102,104,202,204 | 2SC536(F)AUD | " (SANYO)         | 0.25W | 100MHz |
| X105,106,205,206 | "            | " ( " )           | "     | "      |
| X107,207         | 2SC1335(DE)  | " (HITACHI)       | 0.2W  | 230MHz |
| X108,208         | 2SC536(F)AUD | " (SANYO)         | 0.25W | 100MHz |
| X301             | 2SD612(E)    | " ( " )           | 1W    | "      |
| X302,303         | 2SC536(F)AUD | " ( " )           | 0.25W | "      |

## ICs & Diodes

Asterisked parts (\*) show new parts

| Ref. No.     | Parts No. | Parts Name         | Description |
|--------------|-----------|--------------------|-------------|
| IC102,202    | AN315     | Integrated Circuit | MATSUSHITA  |
| D101,201,203 | 1S188FM   | Germanium Diode    | SANYO       |
| D102,202,306 | DS442     | Silicon Diode      | "           |
| D301         | *HZ7(B)   | Zener Diode        | HITACHI     |

## Resistors

| Ref. No.         | Parts No.    | Parts Name  | Description  |
|------------------|--------------|-------------|--------------|
| R101,109,201,209 | QRD141K-222  | Carbon      | 2.2kΩ ¼W     |
| R102,202         | " -105       | "           | 1MΩ "        |
| R103,105,203,205 | " -153       | "           | 15kΩ "       |
| R104,204         | " -102       | "           | 1kΩ "        |
| R106,206         | " -684       | "           | 680kΩ "      |
| R107,207         | " -821       | "           | 820Ω "       |
| R108,208         | " -100       | "           | 10Ω "        |
| R110,121,210,221 | " -333       | "           | 33kΩ "       |
| R112,212         | " -223       | "           | 22kΩ "       |
| R113,114,213,214 | " -562       | "           | 5.6kΩ "      |
| R115,215         | " -683       | "           | 68kΩ "       |
| R116,216         | " -121       | "           | 120Ω "       |
| R117,217         | " -562       | "           | 5.6kΩ "      |
| R118,218         | " -473       | "           | 47kΩ "       |
| R119,219         | " -101       | "           | 100Ω "       |
| R120,220         | " -681       | "           | 680Ω "       |
| R122,222         | " -274       | "           | 270kΩ "      |
| R123,133,223,233 | " -334       | "           | 330kΩ "      |
| R124,224         | " -822       | "           | 8.2kΩ "      |
| R125,225         | " -153       | "           | 15kΩ "       |
| R126,127,226,227 | " -103       | "           | 10kΩ "       |
| R132,232         | " -273       | "           | 27kΩ "       |
| R134,234         | " -473       | "           | 47kΩ "       |
| R135,235         | " -123       | "           | 12kΩ "       |
| R136,146,236,246 | " -102       | "           | 1kΩ "        |
| R140,240         | " -153       | "           | 15kΩ "       |
| R141,241         | " -152       | "           | 1.5kΩ "      |
| R142,242         | " -680       | "           | 68Ω "        |
| R143,243         | " -822       | "           | 8.2kΩ "      |
| R145             | QVP8A0B-014A | Variable    | 10kΩ B-curve |
| R157,257         | QRD141K-102  | Carbon      | 1kΩ ¼W       |
| R161,261         | QRC121K-151  | Composition | 150Ω ½W      |
| R162,262         | QRD141K-391  | Carbon      | 390Ω ¼W      |
| R163,263         | " -393       | "           | 39kΩ "       |
| R164,264         | " -103       | "           | 10kΩ "       |
| R166,168,266,268 | QVP8A0B-054A | Variable    | 50kΩ B-curve |
| R167,267         | QRD141K-392  | Carbon      | 3.9kΩ ¼W     |



| Ref. No.         | Parts No.   | Parts Name | Description |    |
|------------------|-------------|------------|-------------|----|
| R170,270         | QRD141K-271 | Carbon     | 270Ω        | ¼W |
| R171,271         | " -184      | "          | 180kΩ       | "  |
| R172,272         | " -223      | "          | 22kΩ        | "  |
| R173,273         | " -222      | "          | 2.2kΩ       | "  |
| R175,180,275,280 | " -102      | "          | 1kΩ         | "  |
| R176,183,276,283 | " -101      | "          | 100Ω        | "  |
| R181,281         | " -332      | "          | 3.3kΩ       | "  |
| R182,282         | " -563      | "          | 56kΩ        | "  |
| R185,285         | QRD121J-4R7 | "          | 4.7Ω        | ½W |
| R245             | QRD141K-182 | "          | 1.8kΩ       | ¼W |
| R304             | " -100      | "          | 10Ω         | "  |
| R305             | " -681      | "          | 680Ω        | "  |
| R306,307         | " -8R2      | "          | 8.2Ω        | "  |
| R308,309         | " -473      | "          | 47kΩ        | "  |

Capacitors

| Ref. No.         | Parts No.      | Parts Name   | Description |     |
|------------------|----------------|--------------|-------------|-----|
| C101,201         | QEW41HA-105    | Electrolytic | 1μF         | 50V |
| C102,111,202,211 | QEW41AA-476    | "            | 47μF        | 10V |
| C103,118,203,218 | QEW41HA-335    | "            | 3.3μF       | 50V |
| C104,204         | QCS11HJ-471    | Ceramic      | 470pF       | "   |
| C105,205         | " -101         | "            | 100pF       | "   |
| C106,112,206,212 | QCF11EZ-102    | "            | 1000pF      | 25V |
| C108             | QEW21HA-474    | Electrolytic | 0.47μF      | 50V |
| C109,209         | QEW41HA-474    | "            | "           | "   |
| C110,210         | QEW41AA-108    | "            | 1000pF      | 10V |
| C113,213         | QCS11HJ-331    | Ceramic      | 330pF       | 50V |
| C114,214         | QEW41AA-477D11 | Electrolytic | 470μF       | 10V |
| C115,116,215,216 | QEW41EA-475    | "            | 4.7μF       | 25V |
| C117,217         | QFM41HJ-103    | Mylar        | 0.01μF      | 50V |
| C119,219         | QCS11HJ-560    | Ceramic      | 56pF        | "   |
| C120,124,220,224 | QEW41EA-475    | Electrolytic | 4.7μF       | 25V |
| C121,221         | QFM41HK-153    | Mylar        | 0.015μF     | 50V |
| C125,126,225,226 | QEW41HA-474    | Electrolytic | 0.47μF      | "   |
| C127,227         | QEW41CA-106    | "            | 10μF        | 16V |
| C128,228         | QCY41HK-152    | Ceramic      | 1500pF      | 50V |
| C129,229         | QFM41HK-682    | Mylar        | 6800pF      | "   |
| C147,247         | QEW41CA-108    | Electrolytic | 100μF       | 16V |
| C148,156,248,256 | QFM41HK-104    | Mylar        | 0.1μF       | 50V |
| C149,249         | QEW41HA-105    | Electrolytic | 1μF         | "   |
| C150,250         | QEW41CA-106    | "            | 10μF        | 16V |
| C151,251         | QEW41AA-107    | "            | 100μF       | 10V |
| C152,252         | " -336         | "            | 33μF        | "   |
| C153,253         | QEW41CA-336    | "            | "           | 16V |
| C154,254         | QCY41HK-152    | Ceramic      | 1500pF      | 50V |
| C155,255         | " -681         | "            | 680pF       | "   |
| C157,257         | QEW41CA-477    | Electrolytic | 470μF       | 16V |
| C160,260         | QCY41HK-102    | Ceramic      | 100pF       | 50V |
| C161,261         | QEW41AA-476    | Electrolytic | 47μF        | 10V |
| C165,265         | QEW41EA-475    | "            | 4.7μF       | 25V |
| C166,266         | QFS41HJ-501    | Polystyrol   | 500pF       | 50V |
| C167,267         | QCY41HK-562    | Ceramic      | 5600pF      | "   |
| C168,268         | " -332         | "            | 3300pF      | "   |
| C170             | QEW21HA-474    | Electrolytic | 0.47μF      | "   |
| C171,271         | QCS11HJ-561    | Ceramic      | 560pF       | "   |
| C208,270         | QEW41HA-474    | Electrolytic | 0.47μF      | "   |
| C272             | QCS11HJ-101    | Ceramic      | 100pF       | "   |

| Ref. No. | Parts No.   | Parts Name   | Description |     |
|----------|-------------|--------------|-------------|-----|
| C301     | QEW41CA-108 | Electrolytic | 1000μF      | 16V |
| C302     | QEW41AA-477 | "            | 470μF       | 10V |
| C303,304 | QFM41HK-333 | Mylar        | 0.033μF     | 50V |
| C305,313 | QCY41HK-152 | Ceramic      | 1500pF      | "   |
| C306,307 | " -332      | "            | 3300pF      | "   |
| C308     | QFM41HK-223 | Mylar        | 0.022μF     | "   |
| C309     | QEW41AA-107 | Electrolytic | 100μF       | 10V |
| C310     | QFM41HK-682 | Mylar        | 6800pF      | 50V |
| C311,312 | QCY41HK-222 | Ceramic      | 2200pF      | "   |
| C314     | " -472      | "            | 4700pF      | "   |

Others

Asterisked parts (\*) show new parts.

| Ref. No.         | Parts No.    | Parts Name       | Description |
|------------------|--------------|------------------|-------------|
| L101,104,201,204 | 03226-17     | Inductor         |             |
| L102,202         | " -19        | "                |             |
| L301             | " -17        | "                |             |
| L302             | V03083-019   | Coil             | Bias Osc.   |
| S101,201         | QSS6201-201A | Slide Switch     | Play/Record |
| S301             | QSS6301-023  | "                | Function    |
| S312             | QSP4210-061  | Push Switch      | DIN         |
| J101,104,201,204 | *V03104-062  | Jack Board Ass'y |             |
| 301,S309         |              |                  |             |
| J302             | QMC9014-002  | DIN Socket Ass'y |             |
| P.J.             | *V45043-001  | PC Joiner        |             |
| Tab-1            | A43596-001   | Tab              |             |
| Tab-2            | V43895-1     | "                |             |



## Control Circuit Board Ass'y

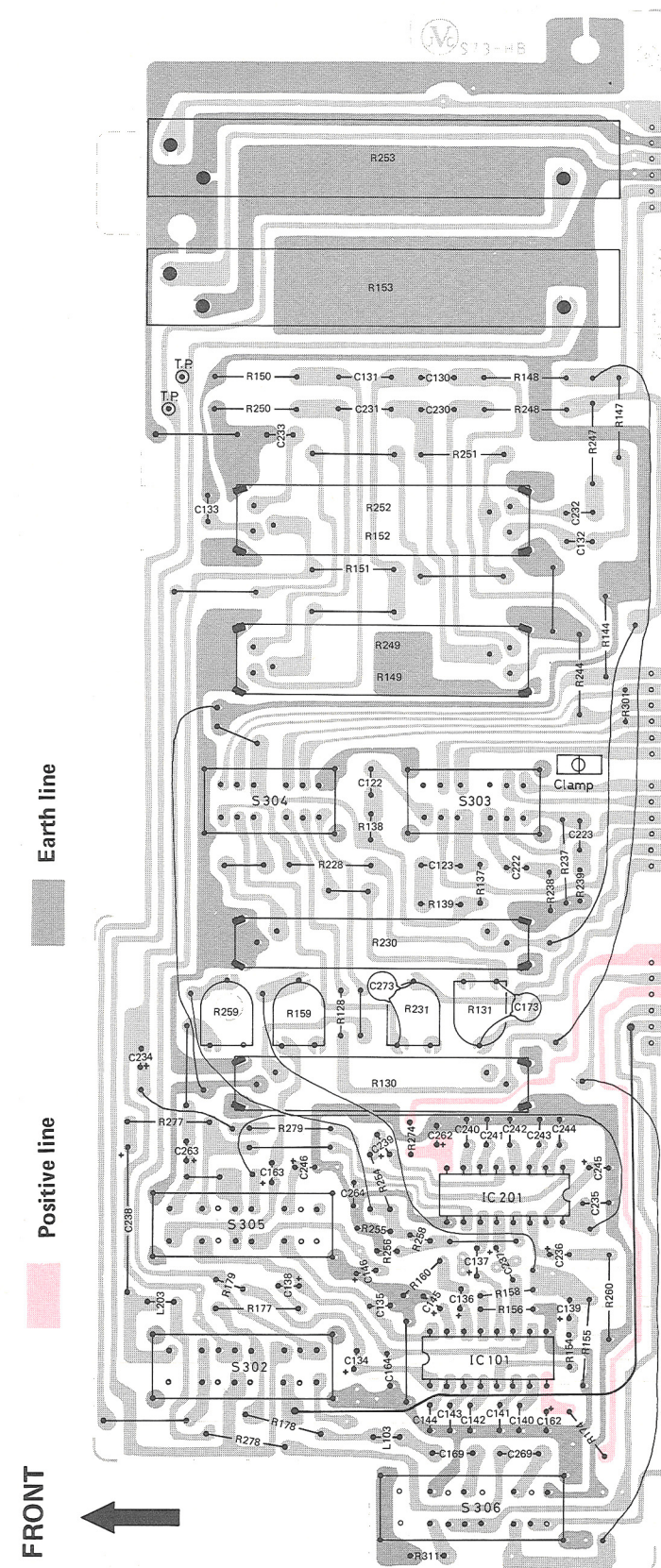


Fig. 50

Note: The circuit board assembly will not be available as spare part.

## IC

Asterisked parts (\*) show new parts.

| Ref. No.  | Parts No.                           | Description              |
|-----------|-------------------------------------|--------------------------|
| IC101,201 | *VUC0001-001A<br>or -001B, or -001C | Biphonic Processor (JVC) |

## Resistors

| Ref. No.         | Parts No.    | Parts Name       | Description   |
|------------------|--------------|------------------|---------------|
| R128,156,256     | QRD143K-103  | Carbon           | 10kΩ ¼W       |
| R130,230         | QVR0A6B-054  | Variable (Slide) | 50kΩ B-curve  |
| R131,231         | QVP8A0B-024A | "                | 20kΩ "        |
| R137,160,237     | QRD143K-392  | Carbon           | 3.9kΩ ¼W      |
| R138,238         | " -181       | "                | 180Ω "        |
| R139,239         | " -101       | "                | 100Ω "        |
| R144,244         | QRD141K-335  | "                | 3.3MΩ "       |
| R147,155,247     | " -472       | "                | 4.7kΩ "       |
| R148,248         | " -822       | "                | 8.2kΩ "       |
| R149,152,249,252 | QVR2A6A-115  | Variable (Slide) | 100kΩ A-curve |
| R150,250,260     | QRD141K-392  | Carbon           | 3.9kΩ ¼W      |
| R151,251         | " -562       | "                | 5.6kΩ "       |
| R153,253         | QVT4DFA-024  | Variable (Slide) | 20kΩ A-curve  |
| R154,254         | QRD143K-123  | Carbon           | 12kΩ ¼W       |
| R158,258         | " -273       | "                | 27kΩ "        |
| R159,259         | QVP8A0B-053A | Variable         | 5kΩ B-curve   |
| R174,274         | QRD143K-680  | Carbon           | 68Ω ¼W        |
| R177,277,279     | QRD141K-272  | "                | 2.7kΩ "       |
| R178,278         | " -821       | "                | 820Ω "        |
| R179             | QRD143K-272  | "                | 2.7kΩ "       |
| R228             | QRD141K-103  | "                | 10kΩ "        |
| R255,301         | QRD143K-472  | "                | 4.7kΩ "       |
| R311             | " -122       | "                | 1.2kΩ "       |

## Capacitors

| Ref. No.         | Parts No.   | Parts Name   | Description |
|------------------|-------------|--------------|-------------|
| C122,222         | QFM41HK-273 | Mylar        | 0.027μF 50V |
| C123,223         | " -153      | "            | 0.015μF "   |
| C130,230         | " -683      | "            | 0.068μF "   |
| C131,231         | " -823      | "            | 0.082μF "   |
| C132,232         | QCY41HK-222 | Ceramic      | 2200pF "    |
| C133,233         | QFM41HK-153 | Mylar        | 0.015μF "   |
| C134,234         | QEC81HM-104 | Electrolytic | 0.1μF "     |
| C135,235         | QFM41HK-333 | Mylar        | 0.033μF "   |
| C136,236         | QEW41AA-476 | Electrolytic | 47μF 10V    |
| C137,138,237     | QEW41CA-106 | "            | 10μF 16V    |
| C139,239         | QEW41HA-335 | "            | 3.3μF 50V   |
| C140,141,240,241 | QFM41HJ-392 | Mylar        | 3900pF "    |
| C142,143,242,243 | " -123      | "            | 0.012μF "   |
| C144,244         | " -123      | "            | " "         |
| C145,245         | QEW41CA-106 | Electrolytic | 10μF 16V    |
| C146,246         | QEW41AA-336 | "            | 33μF 10V    |
| C162,163,262,263 | QEW41CA-106 | "            | 10μF 16V    |
| C164,264         | QCY41HK-472 | Ceramic      | 4700pF 50V  |
| C169,269         | QFM41HK-473 | Mylar        | 0.047μF "   |
| C173,273         | QCY41HK-332 | Ceramic      | 3300pF "    |
| C238             | QEW21CA-106 | Electrolytic | 10μF 16V    |

— Continued on page 25 —



# Headphone Circuit Board Ass'y

TOP

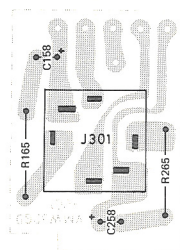


Fig. 51

**Note:** The circuit board assembly will not be available as spare part.

## Resistors

| Ref. No. | Parts No.   | Parts Name | Description |
|----------|-------------|------------|-------------|
| R165,265 | QRD141K-221 | Carbon     | 220Ω ¼W     |

## Capacitors

| Ref. No. | Parts No.   | Parts Name   | Description |
|----------|-------------|--------------|-------------|
| C158,258 | QEW41HA-335 | Electrolytic | 3.3μF 50V   |

## Others

| Ref. No. | Parts No.   | Parts Name           | Description |
|----------|-------------|----------------------|-------------|
| J301     | QMS6301-008 | Headphone Jack Ass'y |             |

— Continued from page 24 —

## Others

| Ref. No.     | Parts No.   | Parts Name   | Description                              |
|--------------|-------------|--------------|--|
| L103,203     | 03226-22    | Inductor     | MODE, METER<br>TAPE, REC<br>TP103, TP203 |
| S302,305,306 | QSL4324-001 | Lever Switch |  |
| S303,304     | QSL4218-001 | "            |  |
| T.P.         | V04041-1    | Test Point   |  |
| Clamp        | V44691-001  | Wire Clamp   |  |



# Meter Control Circuit Board Ass'y

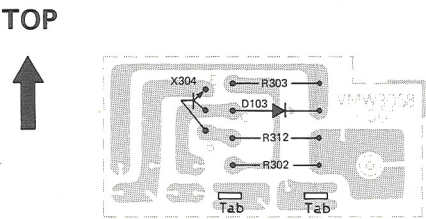


Fig. 52

**Note:** The circuit board assembly will not be available as spare part.

**Transistor**

| Ref. No. | Parts No.    | Description     | Pc    | fT     |
|----------|--------------|-----------------|-------|--------|
| X304     | 2SC536(F)AUD | Silicon (SANYO) | 0.25W | 100MHz |

**Diode**

| Ref. No. | Parts No. | Description       |
|----------|-----------|-------------------|
| D103     | 1S188FM   | Germanium (SANYO) |

**Resistors**

| Ref. No. | Parts No.   | Parts Name | Description  |
|----------|-------------|------------|--------------|
| R302     | QRD141K-473 | Carbon     | 47kΩ      ¼W |
| R303     | " -472      | "          | 4.7kΩ      " |
| R312     | " -104      | "          | 100kΩ      " |

**Others**

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-----------|------------|-------------|
| Tab      | V43895-1  | Tab        |             |



Power Supply Circuit Board Ass'y

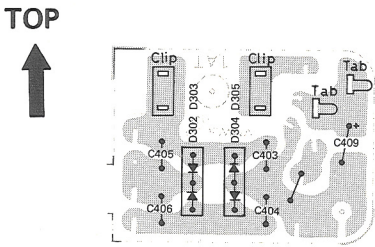


Fig. 53

Note: The circuit board assembly will not be available as spare part.

Diodes

| Ref. No. | Parts No. | Description                     |
|----------|-----------|---------------------------------|
| D302,303 | DS131A    | Silicon (SANYO) rectifier stack |
| D304,305 | DS132A    | " (SANYO)                       |

Capacitors

| Ref. No.         | Parts No.   | Parts Name   | Description |
|------------------|-------------|--------------|-------------|
| C403,404,405,406 | QCF11EZ-103 | Ceramic      | 0.01μF 25V  |
| C409             | QEW41CA-228 | Electrolytic | 2200μF 16V  |

Others

| Ref. No. | Parts No.  | Parts Name | Description |
|----------|------------|------------|-------------|
| Clip     | A44594-001 | Fuse Clip  |             |
| Tab      | V43895-1   | Tab        |             |

LED Circuit Board Ass'y

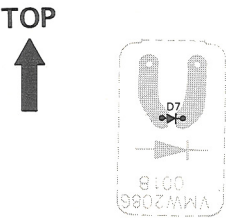


Fig. 54

Note: The circuit board assembly will not be available as spare part.

Diode

| Ref. No. | Parts No. | Description                |
|----------|-----------|----------------------------|
| D7       | SLP114D   | Light Emission (SANYO) Red |



# Exploded View of Cassette Mechanism

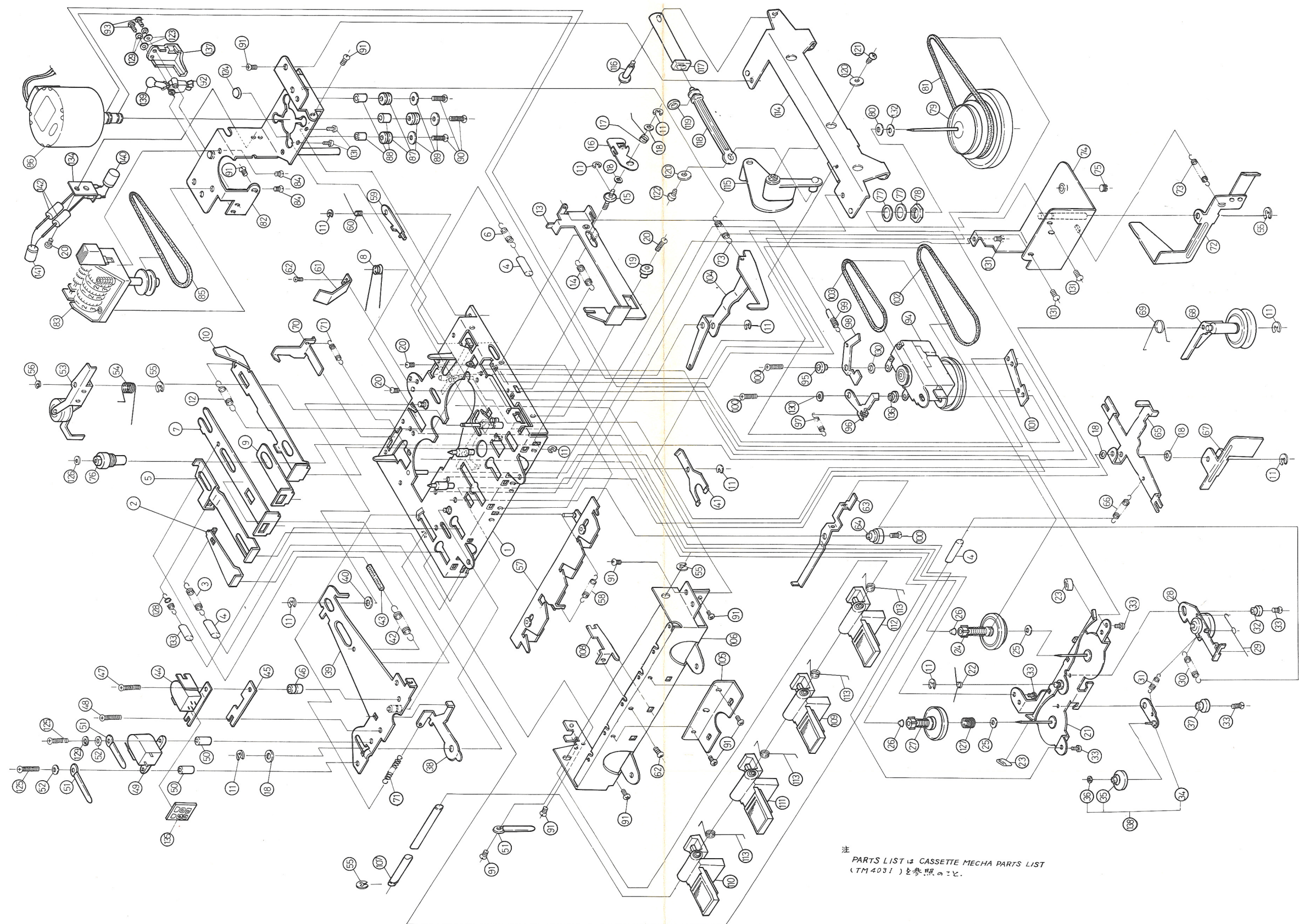


Fig. 55



# List of Cassette Mechanism

| Ref. No. | Parts No.     | Parts Name              | Description          | Q'ty |
|----------|---------------|-------------------------|----------------------|------|
| 1        | *TGB352301-0A | Chassis Ass'y           |                      | 1    |
| 2        | *TGB294441-0B | Rewind Bar Ass'y        |                      | 1    |
| 3        | T30300-056    | Spring                  | for Rewind Bar       | 1    |
| 4        | *QXT636H-008  | Vinyl Tube              | φ3.6 x l8            | 3    |
| 5        | *TGB352408-0A | Record Bar Ass'y        |                      | 1    |
| 6        | T30300-140    | Spring                  | for F.F. Lever       | 1    |
| 7        | TGB294445-0A  | Play Bar Ass'y          |                      | 1    |
| 8        | TFW294447-01  | Play Bar Spring         |                      | 1    |
| 9        | TGB294448-0A  | F F Bar Ass'y           |                      | 1    |
| 10       | *TGB352410-0A | Stop Bar Ass'y          |                      | 1    |
| 11       | REE2500       | E-ring                  |                      | 11   |
| 12       | *T30300-208   | Spring                  | for Stop Bar         | 1    |
| 13       | *TGB352412-0A | Pause Bar Ass'y         |                      | 1    |
| 14       | T30300-005    | Spring                  | for Pause Bar        | 1    |
| 15       | *TFH352415-01 | Pause Stud              |                      | 1    |
| 16       | *TFB352416-01 | Pause Lock Lever        |                      | 1    |
| 17       | *TFW352417-01 | Lock Lever Spring       |                      | 1    |
| 18       | Q03093-430    | Washer                  |                      | 5    |
| 19       | T43909-002    | Metal                   |                      | 1    |
| 20       | LPSP2605Z     | Ass'y Screw             |                      | 4    |
| 21       | TGB294436-0D  | Reel Disk Bracket Ass'y |                      | 1    |
| 22       | TFW336525-01  | Brake Spring            |                      | 1    |
| 23       | TER265487-01  | Brake Rubber            |                      | 2    |
| 24       | TGP294462-0C  | Take-up Disk Ass'y      |                      | 1    |
| 25       | Q03093-609    | Washer                  |                      | 2    |
| 26       | *TEP357437-01 | Reel Stopper            |                      | 2    |
| 27       | *TGP352454-0A | Supply Disk Ass'y       |                      | 1    |
| 28       | TGX294488-0A  | F F Arm Ass'y           |                      | 1    |
| 29       | *VKW4120-001  | F F Spring              |                      | 1    |
| 30       | T30300-151    | Spring                  | for F F Arm Ass'y    | 1    |
| 31       | T30300-126    | Spring                  | for Rewind Idler Arm | 1    |
| 32       | TFH294492-01  | Metal                   |                      | 1    |
| 33       | SPSP2605Z     | Screw                   |                      | 5    |
| 34       | TGB294510-0A  | Rewind Arm Ass'y        |                      | 1    |
| 35       | T47500-001    | Idler Ass'y             |                      | 1    |
| 36       |               | Poly Slider Washer      | φ1 x φ4 x t0.25      | 1    |
| 37       | TFH294491-01  | Metal                   |                      | 1    |
| 38       | *TFB352461-01 | Record Lock Lever       |                      | 1    |
| 39       | *TGB352418-0A | Slide Base Ass'y        |                      | 1    |
| 40       | Q03093-819    | Washer                  |                      | 1    |
| 41       | TFP294460-01  | Spring Plate            |                      | 1    |
| 42       | *VKW3000-011  | Spring                  |                      | 1    |
| 43       | TJN265559-02  | Silencer                |                      | 1    |
| 44       | THC000487-0B  | Play/Record Head        |                      | 1    |
| 45       | TFP294513-01  | Play/Record Head Spring |                      | 1    |
| 46       | *TFH352422-01 | Head Collar             |                      | 1    |
| 47       | SPSP2012Z     | Screw                   | for R/P Head         | 1    |
| 48       | SPSX2012Z     | P.M. Screw              | for Azimuth          | 1    |
| 49       | V03078-044    | Erase Head              |                      | 1    |
| 50       | *TFH352422-02 | Head Collar             |                      | 2    |
| 51       | V42603-003    | Wire Clamp              |                      | 3    |
| 52       | WNS2000N      | Washer                  |                      | 2    |
| 53       | *TGB352423-0A | Pinch Roller Arm Ass'y  |                      | 1    |
| 54       | *TFW352425-01 | Pinch Roller Spring     |                      | 1    |
| 55       | REE4000       | E-ring                  |                      | 4    |
| 56       | REE2000       | E-ring                  |                      | 1    |
| 57       | *TGB352427-0A | Push Button Cam Ass'y   |                      | 1    |
| 58       | T30300-125    | Spring                  | for Push Button Cam  | 1    |
| 59       | TFB294512-01  | Select Lever            |                      | 1    |

| Ref. No. | Parts No.     | Parts Name            | Description         | Q'ty |
|----------|---------------|-----------------------|---------------------|------|
| 60       | TFW294471-01  | Spring                |                     | 1    |
| 61       | *TFP352430-01 | Cassette Spring       |                     | 1    |
| 62       | SPSP2604Z     | Screw                 |                     | 2    |
| 63       | *TFB352432-01 | Review Lever          |                     | 1    |
| 64       | *VKH4102-001  | Metal                 |                     | 1    |
| 65       | *TFB352431-01 | Brake Lever           |                     | 1    |
| 66       | T30300-056    | Spring                | for Brake Lever     | 1    |
| 67       | *TFB352434-01 | Record Lever (A)      |                     | 1    |
| 68       | TGP294479-0A  | Take-up Lever Ass'y   |                     | 1    |
| 69       | TFW294482-02  | Lever Spring          |                     | 1    |
| 70       | *TFB352433-01 | Record Safety Lever   |                     | 1    |
| 71       | T30300-121    | Spring                |                     | 2    |
| 72       | *TGB352435-0A | Record Lever Ass'y    |                     | 1    |
| 73       | T30300-136    | Spring                | for Record Lever B  | 2    |
| 74       | *TGB352438-0A | Flywheel Holder Ass'y |                     | 1    |
| 75       | TEP265498-01  | Thrust Screw          |                     | 1    |
| 76       | *TFH352420-0A | Capstan Metal Ass'y   |                     | 1    |
| 77       | T47829-001    | Washer                |                     | 2    |
| 78       | T47828-001    | Nut                   |                     | 1    |
| 79       | *TGD352302-0A | Flywheel Ass'y        |                     | 1    |
| 80       | Q03093-829    | Washer                | for Thrust          | 1    |
| 81       | *TEB352441-01 | Capstan Belt          |                     | 1    |
| 82       | *TGB352442-0A | M.C Bracket Ass'y     |                     | 1    |
| 83       | *V31093-003   | Tape Counter          |                     | 1    |
| 84       | SSSP3006ZS    | Screw                 |                     | 2    |
| 85       | *TEB352444-01 | Counter Belt          |                     | 1    |
| 86       | *MHi5F2CRY    | Motor Ass'y           |                     | 1    |
| 87       | T45687-001    | Rubber Cushion        |                     | 3    |
| 88       | T30302-058    | Collar                |                     | 3    |
| 89       | Q03091-154    | Washer                |                     | 3    |
| 90       | SPSP2608Z     | Screw                 |                     | 3    |
| 91       | SPSD2605Z     | TH. Tap. Screw        |                     | 10   |
| 92       | *VSM1106-001  | Main Switch           |                     | 1    |
| 93       | SPSP2014Z     | Screw                 | for Main Switch     | 2    |
| 94       | *V31164-001   | Shut-off Ass'y        |                     | 1    |
| 95       | *TFH352445-01 | Metal                 |                     | 1    |
| 96       | *TFB352446-01 | Kick Lever            |                     | 1    |
| 97       | *T30300-170   | Spring                | for Kick Lever      | 1    |
| 98       | *TFB352447-01 | Stop Lever            |                     | 1    |
| 99       | *TFW352460-01 | Spring                | for Stop Lever      | 1    |
| 100      | LPSP2608Z     | Ass'y Screw           |                     | 3    |
| 101      | *TFB352448-01 | Bracket               |                     | 1    |
| 102      | *VKB3000-005H | Shut-off Belt         |                     | 1    |
| 103      | *VKB3000-002H | Belt                  |                     | 1    |
| 104      | *TFB352450-01 | Stop Arm              |                     | 1    |
| 105      | *TFB352459-01 | Button Bracket        |                     | 1    |
| 106      | *TFB352304-01 | Push Button Frame     |                     | 1    |
| 107      | *TFH352451-01 | Push Button Shaft     |                     | 1    |
| 108      | *VKL4104-001  | Frame Bracket         |                     | 1    |
| 109      | *TJB352307-01 | Push Button           | CUE                 | 1    |
| 110      | *TJB352305-01 | Push Button           | PLAY, REVIEW, PAUSE | 3    |
| 111      | *TJB352305-02 | Push Button           | REC                 | 1    |
| 112      | *TJB352305-03 | Push Button           | STOP/EJECT          | 1    |
| 113      | *TFW352453-01 | Push Button Spring    |                     | 6    |
| 114      | *TFB352306-01 | Amp. Bracket          |                     | 1    |
| 115      | *V45028-001   | Arm Holder            |                     | 1    |
| 116      | V42583-006    | Stud                  |                     | 1    |
| 117      | V44830-00A    | Brake Pipe Ass'y      |                     | 1    |
| 118      | V44808-001    | Brake Shaft           |                     | 1    |

— Continued on page 38 —



# Exploded View of Amplifier Ass'y

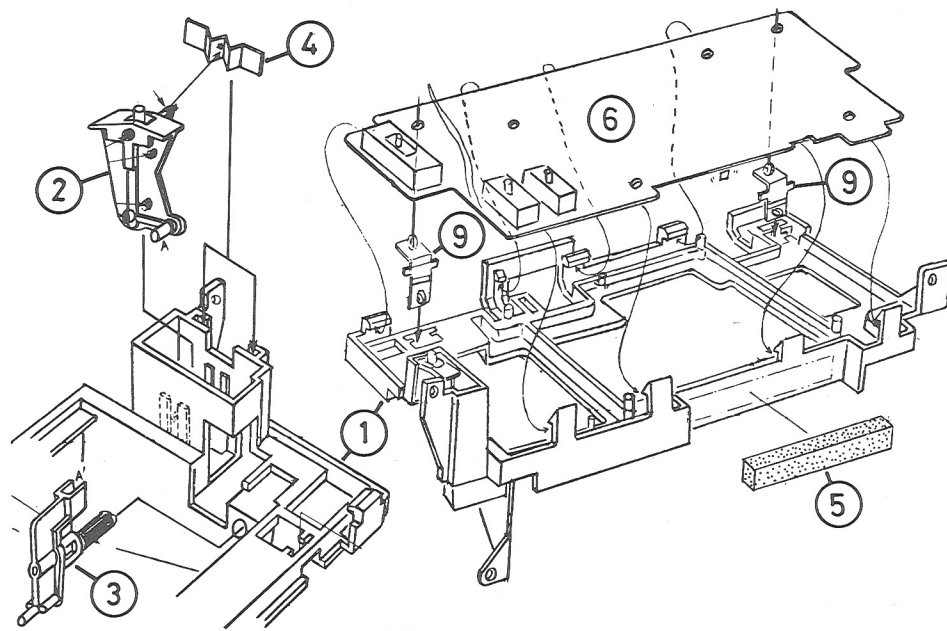


Fig. 56

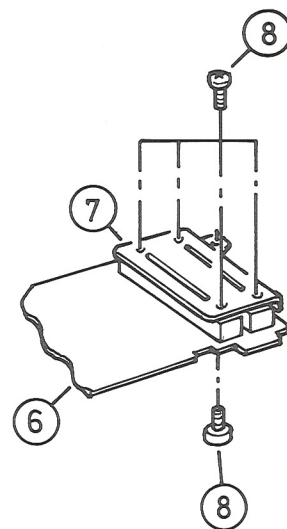


Fig. 57

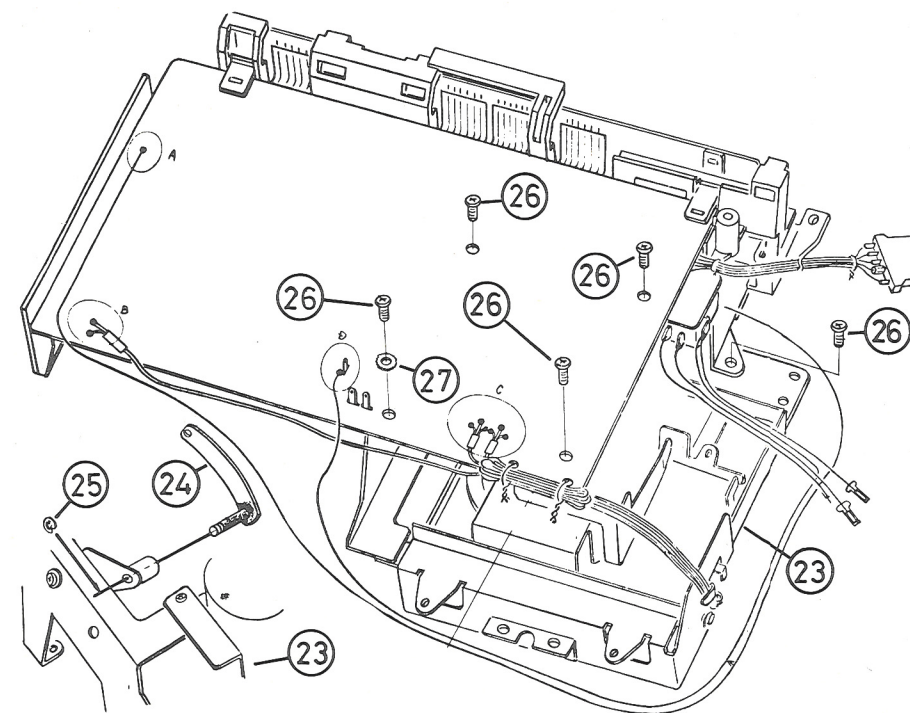


Fig. 60

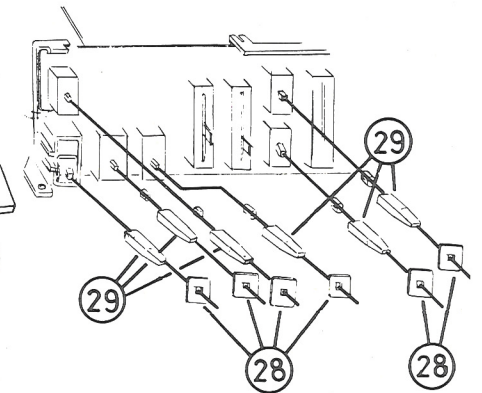


Fig. 61

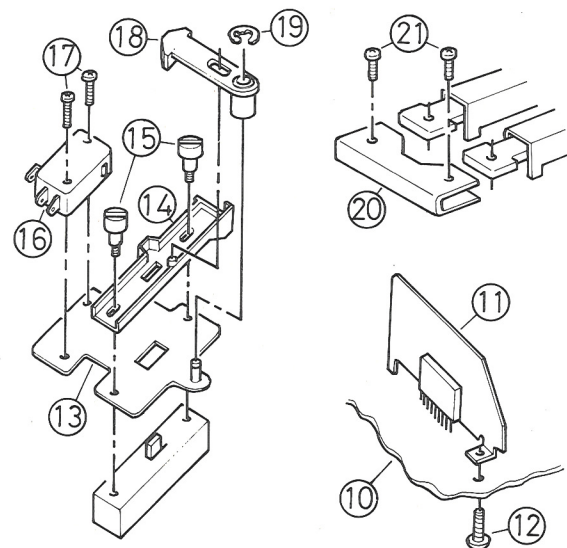


Fig. 58

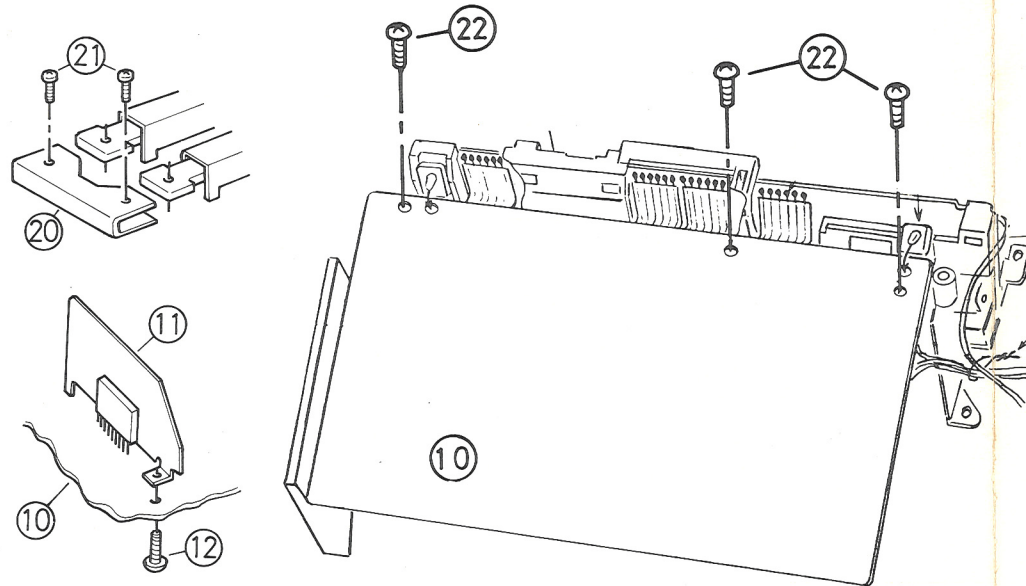


Fig. 59

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.    | Parts Name              | Description   | Q'ty |
|----------|--------------|-------------------------|---------------|------|
| 1        | *V10344-1    | Control Chassis         | Glued Control | 1    |
| 2        | *V31148-001  | Toggle Lever            |               | 1    |
| 3        | *V44968-001  | Toggle Connector        |               | 1    |
| 4        | *V45037-002  | Spring                  |               | 1    |
| 5        | VYSH105-017  | Spacer                  |               | 1    |
| 6        | *            | Circuit Board Ass'y     | Amplifier     | 1    |
| 7        | *V44971-001  | Bracket                 |               | 1    |
| 8        | SPSP3004ZS   | Screw                   |               | 5    |
| 9        | *V44967-001  | Hinge                   |               | 2    |
| 10       | *            | Circuit Board Ass'y     |               | 1    |
| 11       | *V44970-001  | Radiation Plate         |               | 2    |
| 12       | SBSB3010Z    | Screw                   |               | 6    |
| 13       | *VYH4152-00A | Plate                   |               | 1    |
| 14       | *V44969-003  | Slider                  |               | 1    |
| 15       | V42583-2     | Stud                    |               | 2    |
| 16       | QSM1V11-102  | Micro Switch            |               | 1    |
| 17       | SPSP3012ZS   | Screw                   |               | 2    |
| 18       | *VYH4154-001 | Arm                     |               | 1    |
| 19       | REE2000      | E-ring                  |               | 1    |
| 20       | TFB336401-01 | Switch Connector        |               | 1    |
| 21       | SPSP2008Z    | Screw                   |               | 2    |
| 22       | SBSB3010Z    | "                       |               | 3    |
| 23       | *            | Cassette Mechanism      |               | 1    |
| 24       | *V45027-00A  | Cassette Door Arm Ass'y |               | 1    |
| 25       | REE2000      | E-ring                  |               | 1    |
| 26       | SPSP3008ZS   | Screw                   |               | 5    |
| 27       | WBS3000N     | Toothed Lock Washer     |               | 1    |
| 28       | *V45041-001  | Dust Cover              |               | 6    |
| 29       | *V44979-001  | Lever Cap               |               | 6    |

# Exploded View of Tuner Ass'y

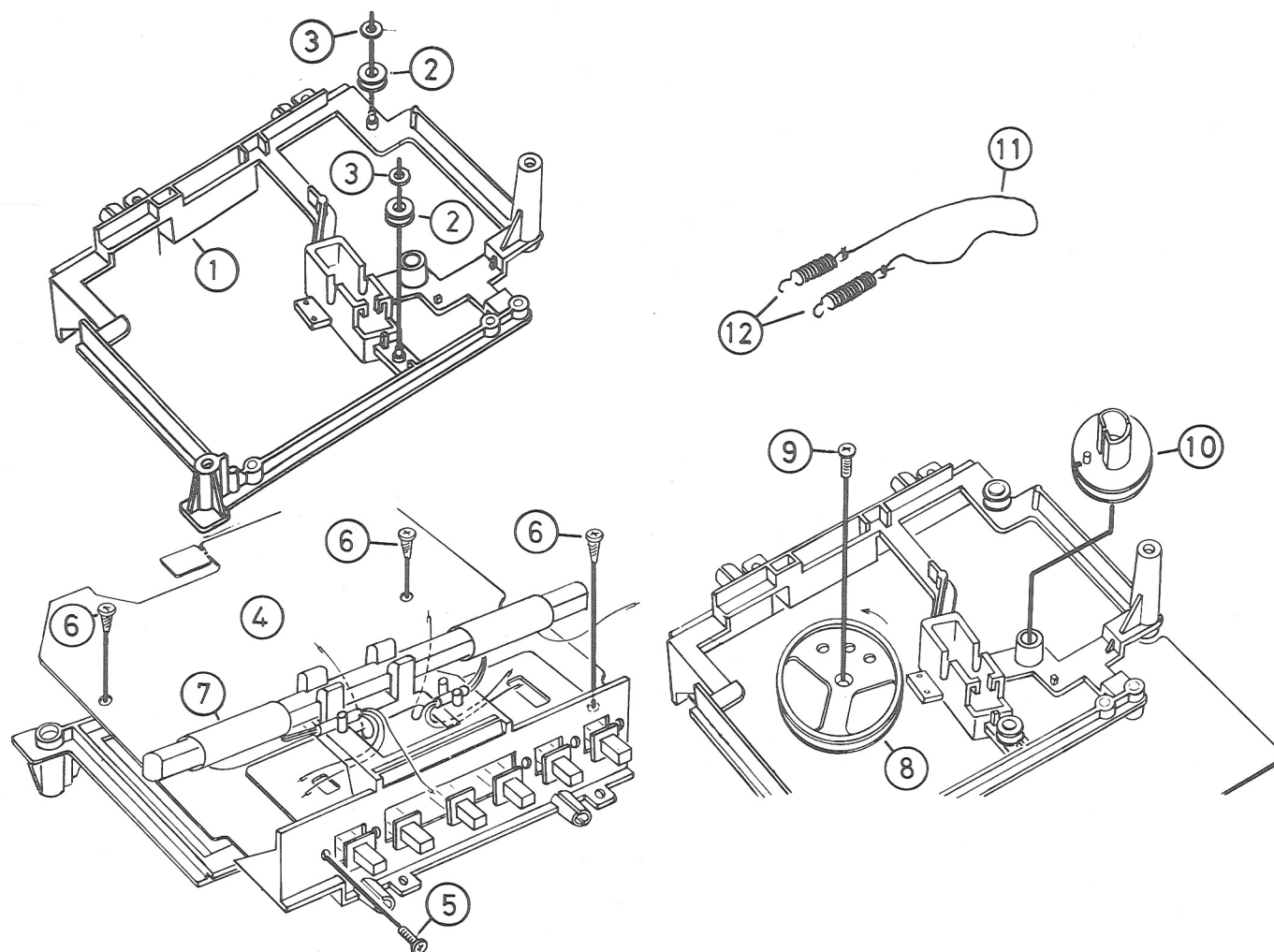


Fig. 62

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.     | Parts Name          | Description | Q'ty |
|----------|---------------|---------------------|-------------|------|
| 1        | *V10338-003   | Chassis             | Tuner       | 1    |
| 2        | VYH4002-001   | Roller              |             | 2    |
| 3        | V42562-1      | Special Washer      |             | 2    |
| 4        | *             | Circuit Board Ass'y |             | 1    |
| 5        | SDSP3008ZS    | Screw               |             | 1    |
| 6        | SBSB3008Z     | "                   | L8, 9       | 3    |
| 7        | *VQB016B-204  | Bar Antenna Ass'y   |             | 1    |
| 8        | *QZD1108-002N | Dial Drum           |             | 1    |
| 9        | SSSP2608Z     | Screw               |             | 1    |
| 10       | *VYH3103-001  | Dial Drum           |             | 1    |
| 11       | VHR2TK9-05AT  | Dial Cord           |             | 1    |
| 12       | 50153-3       | Spring              |             | 2    |



# Exploded View of Power Supply Ass'y

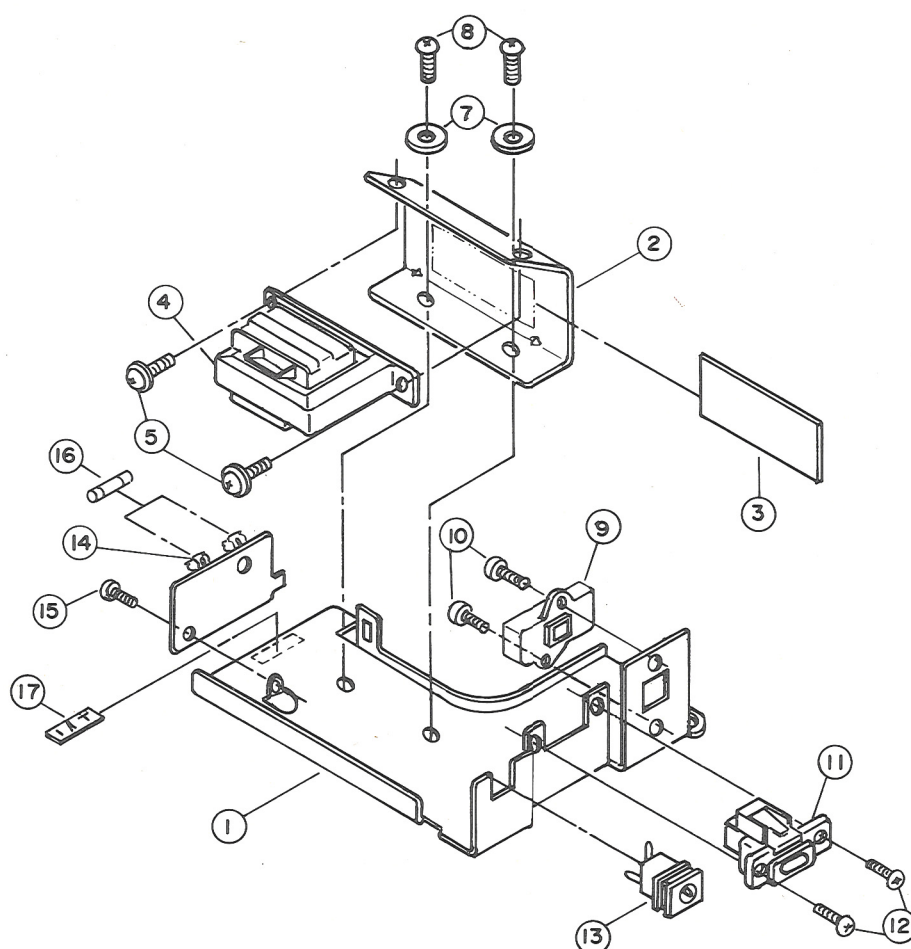


Fig. 63

Arsterisked parts (\*) show new parts.

| Ref. No. | Parts No.    | Parts Name          | Description  | Q'ty |
|----------|--------------|---------------------|--------------|------|
| 1        | *V31141-005  | Transformer Bracket |              | 1    |
| 2        | *VYH4176-001 | Bracket             |              | 1    |
| 3        | *VYSP1R5-019 | Spacer              | Glued        | 1    |
| 4        | VTP54N2-12A  | Power Transformer   | T101         | 1    |
| 5        | DPSP4008ZS   | Ass'y Screw         |              | 2    |
| 6        |              |                     | Blank No.    |      |
| 7        | Q03091-110   | Washer              |              | 2    |
| 8        | SBSB4010Z    | Screw               |              | 2    |
| 9        | QSS2325-005  | Slide Switch        | S313         | 1    |
| 10       | SPSP3006ZS   | Screw               |              | 2    |
| 11       | QMC0263-001  | AC Socket Ass'y     |              | 1    |
| 12       | SBSB2606Z    | Screw               |              | 2    |
| 13       | QMA1221-001  | DC Jack Ass'y       | J303         | 1    |
| 14       | * ———        | Circuit Board Ass'y | Power Supply | 1    |
| 15       | SBSB3006Z    | Screw               |              | 1    |
| 16       | QMF51A2-1R0  | Fuse                | 1AT          | 1    |
| 17       | V42816-007   | Fuse Label          | Glued        | 1    |

# Exploded View of Front Cabinet (1)

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.            | Parts Name                 | Description | Q'ty     |
|----------|----------------------|----------------------------|-------------|----------|
| 1~20     | <b>*ZCRC828L-CBF</b> | <b>Front Cabinet Ass'y</b> |             | <b>1</b> |
| 1        | <b>*V10343-003</b>   | Front Cabinet              |             | 1        |
| 2        | <b>*V44946-002</b>   | Contact                    |             | 1        |
| 3        | SDSP3006ZS           | Screw                      |             | 1        |
| 4        | <b>*V20697-002</b>   | Control Panel              | Glued       | 1        |
| 5        | <b>*V44936-001</b>   | Plate (A)                  | "           | 1        |
| 6        | <b>*V44937-001</b>   | " (B)                      | "           | 1        |
| 7        | <b>*V44938-001</b>   | Dust Pad (A)               | "           | 2        |
| 8        | <b>*V44939-001</b>   | " (B)                      | "           | 1        |
| 9        | <b>*V44945-001</b>   | Plate                      | "           | 1        |
| 10       | <b>*V20699-001</b>   | Dial Lens                  | "           | 1        |
| 11       | VYSH107-005          | Spacer                     | "           | 6        |
| 12       | <b>*V20700-001</b>   | Dial Escutcheon            | "           | 1        |
| 13       | <b>*V44940-001</b>   | Microphone Plate           | "           | 2        |
| 14       | QXM2251-001          | Mark                       | "           | 1        |
| 15       | <b>*V44957-001</b>   | Reflection Plate           | "           | 1        |
| 16       | <b>*V44941-001</b>   | Fitting                    | "           | 1        |
| 17       | <b>*VJD4001-001</b>  | Plate                      | "           | 1        |
| 18       | 47115-042            | Saran Net                  | "           | 2        |
| 19       | <b>*V44958-00A</b>   | Speaker Grill              |             | 2        |
| 20       | <b>*V44960-001</b>   | Punching Panel             | Glued       | 2        |
| 21       | <b>*VYTA406-001</b>  | Spacer                     |             | 1        |
| 22       | <b>*V44961-001</b>   | Knob Ring                  |             | 1        |
| 23       | <b>*V44975-001</b>   | Spring                     |             | 1        |
| 24       | SBSB2606Z            | Screw                      |             | 1        |
| 25       | <b>*V45025-001</b>   | Protector                  |             | 1        |
| 26       | Q03091-138           | Washer                     |             | 2        |
| 27       | NNB3000S             | Nut                        |             | 2        |
| 28~29    | <b>*ZERC828-CCA</b>  | <b>Cassette Door Ass'y</b> |             | <b>1</b> |
| 28       | <b>*V31145-00A</b>   | Cassette Door Sub Ass'y    |             | 1        |
| 29       | <b>*V31146-001</b>   | Cassette Plate             | Glued       | 1        |
| 30       | E48729-004           | Plastic Rivet              |             | 1        |
| 31       | <b>*V44932-001</b>   | Head Cover                 |             | 1        |
| 32       | <b>*V44955-001</b>   | Plate                      | Glued       | 1        |

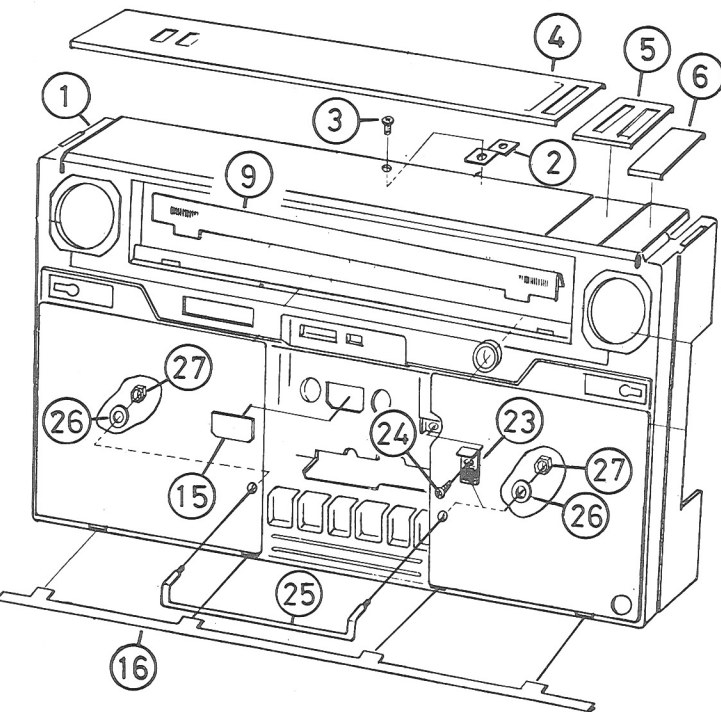


Fig. 64

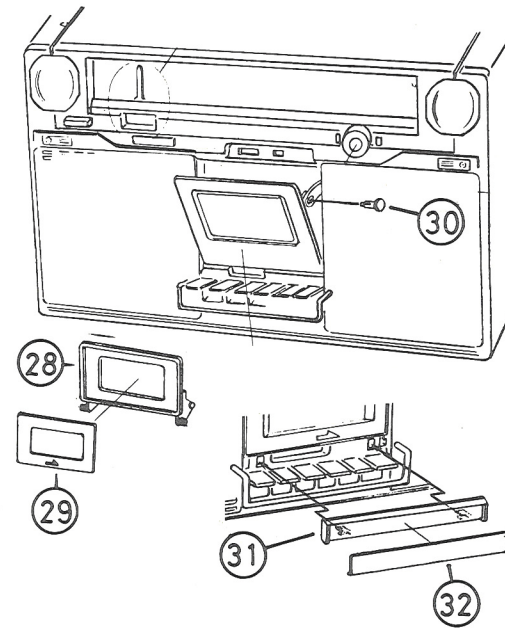


Fig. 65

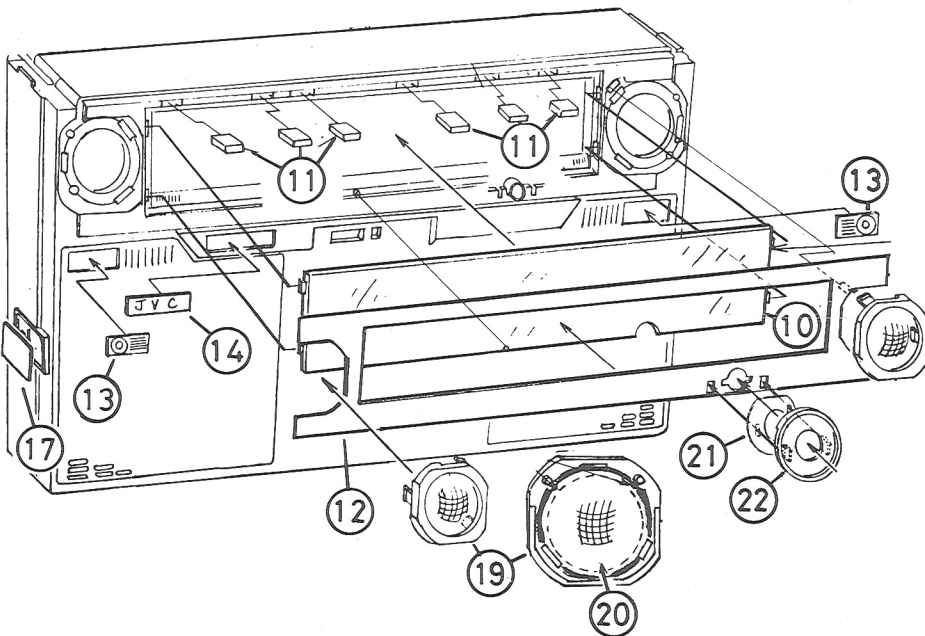


Fig. 66

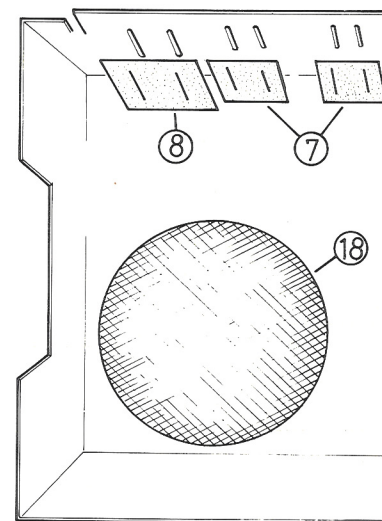


Fig. 67



Exploded View of Front Cabinet (2)

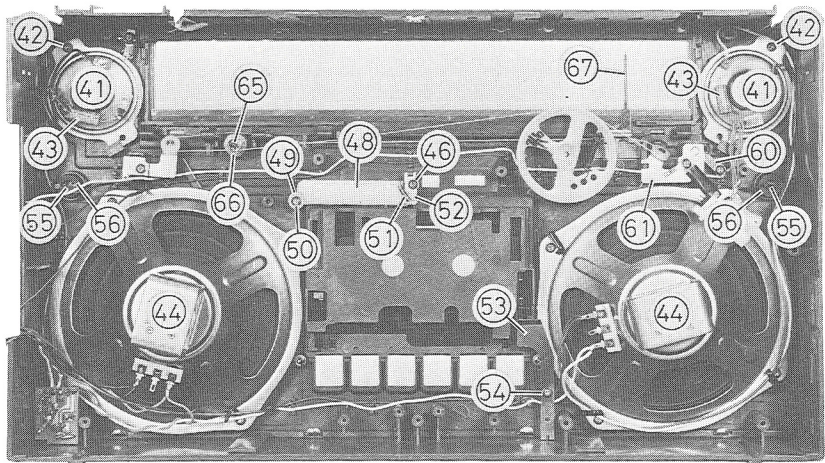


Fig. 68

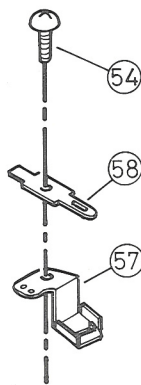


Fig. 69

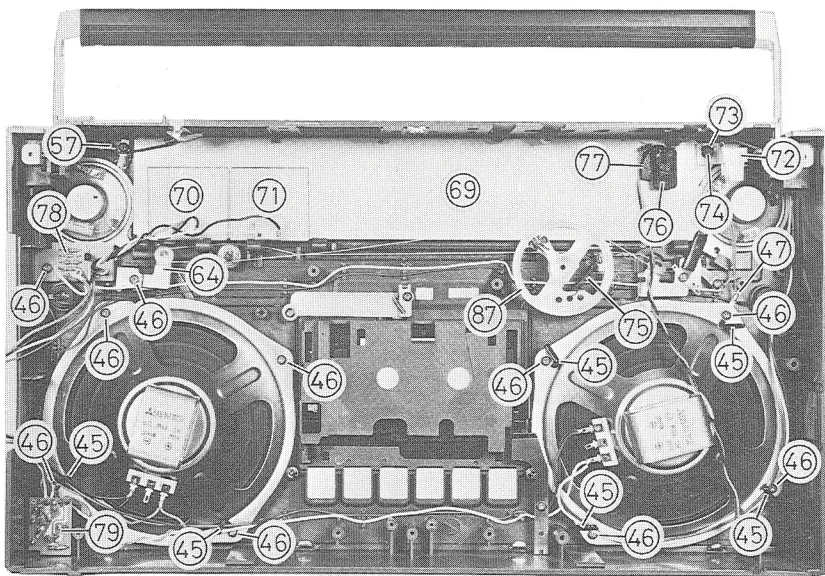


Fig. 70

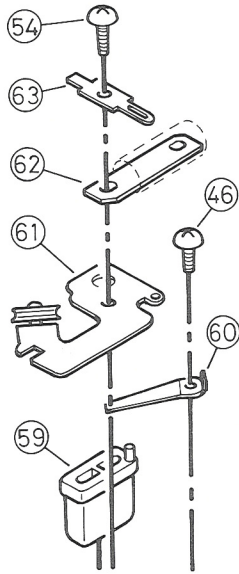


Fig. 71

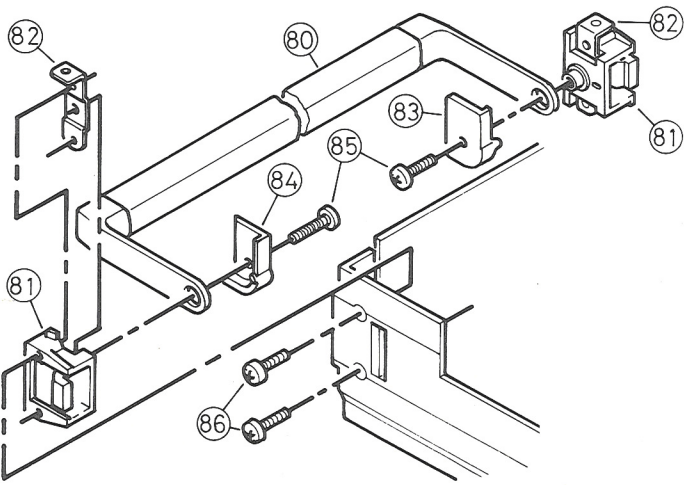


Fig. 72

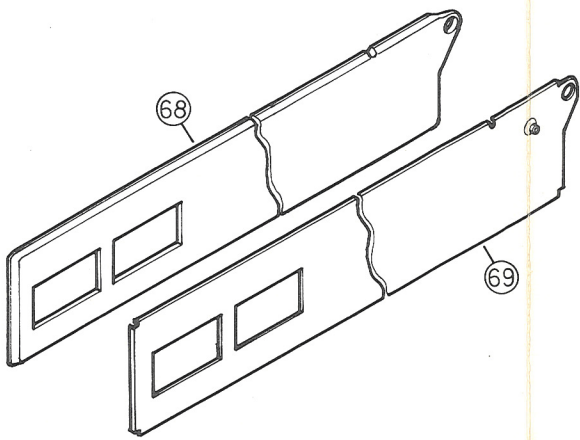


Fig. 73

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.    | Parts Name                           | Description           | Q'ty |
|----------|--------------|--------------------------------------|-----------------------|------|
| 41       | *EAS5PH50SG  | Speaker                              | Tweeter               | 2    |
| 42       | SBSB3006Z    | Screw                                |                       | 2    |
| 43       | QEN21EM-335  | Non-polarized Electrolytic Capacitor | C159,259 (3.3μF, 25V) | 2    |
| 44       | EAS16P111SD  | Speaker                              | Woofer                | 2    |
| 45       | V42603-003   | Wire Clamp                           |                       | 6    |
| 46       | SBSB3008Z    | Screw                                |                       | 12   |
| 47       | 50242-3      | Lug                                  |                       | 1    |
| 48       | *V31165-002  | Eject Lever                          |                       | 1    |
| 49       | Q03091-105   | Washer                               |                       | 1    |
| 50       | SBSB3012Z    | Screw                                |                       | 1    |
| 51       | T30300-194   | Spring                               |                       | 1    |
| 52       | *V44962-001  | Eject Lever Holder                   |                       | 1    |
| 53       | *V44953-001  | Cassette Spring                      |                       | 1    |
| 54       | SBSB3010Z    | Screw                                |                       | 3    |
| 55       | VMME62N-004  | Condenser Microphone                 |                       | 2    |
| 56       | V44886-001   | Microphone Bushing                   |                       | 2    |
| 57       | *V44981-001  | Earth Catcher                        |                       | 1    |
| 58       | V41208-003   | Tab                                  |                       | 1    |
| 59       | *V44949-001  | Check Light Button                   |                       | 1    |
| 60       | V41299-006   | Contact                              |                       | 1    |
| 61       | *V44950-00B  | Roller Bracket Ass'y                 |                       | 1    |
| 62       | V44196-002   | Rod Antenna Holder                   |                       | 1    |
| 63       | V41208-003   | Tab                                  |                       | 1    |
| 64       | *V44950-00C  | Roller Bracket Ass'y                 |                       | 1    |
| 65       | *VYH4159-00A | Tuning Shaft Ass'y                   |                       | 1    |
| 66       | *VYH4149-002 | Nut                                  |                       | 1    |
| 67       | *V44964-001  | Needle                               |                       | 1    |
| 68       | *V20698-002  | Dial Scale                           |                       | 1    |
| 69       | *V20702-001  | Dial Back Plate                      |                       | 1    |
| 70       | *V03020-060  | Indicator                            |                       | 1    |
| 71       | *V03020-059  | "                                    |                       | 1    |
| 72       | *V31167-002  | Switch Holder                        |                       | 1    |
| 73       | 53492-002    | Rubber Bushing                       |                       | 1    |
| 74       | QLP3101-331  | Lamp                                 |                       | 1    |
| 75       | 50153-3      | Spring                               |                       | 1    |
| 76       | *            | Circuit Board Ass'y                  | LED                   | 1    |
| 77       | *V44901-002  | Spacer                               |                       | 1    |
| 78       | *            | Circuit Board Ass'y                  | Meter Control         | 1    |
| 79       | *            | "                                    | Headphone             | 1    |
| 80       | *V44348-00J  | Handle                               |                       | 1    |
| 81       | V31131-001   | Handle Supporter                     |                       | 2    |
| 82       | V44883-001   | Bracket                              |                       | 2    |
| 83       | *V44943-001  | Washer (L)                           |                       | 1    |
| 84       | *V44944-001  | " (R)                                |                       | 1    |
| 85       | SPSP3014ZS   | Screw                                |                       | 2    |
| 86       | SDSP3018RS   | "                                    |                       | 4    |
| 87       | *V44930-001  | Tuning Drum                          |                       | 1    |



# Exploded View of Rear Cabinet

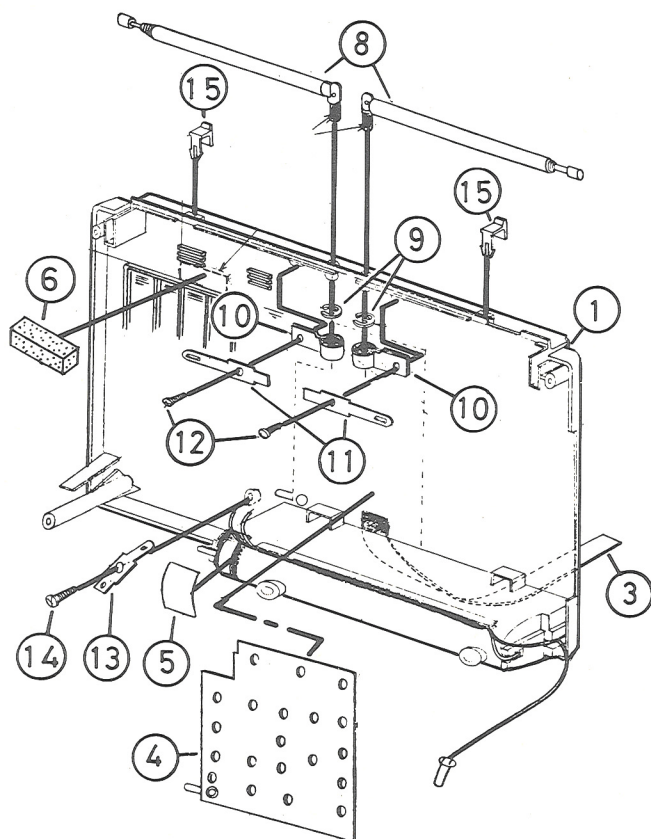


Fig. 74

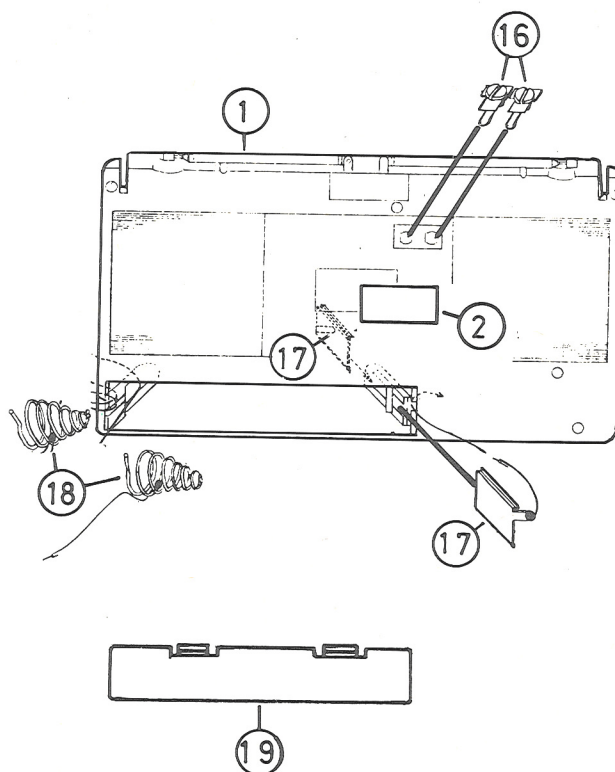


Fig. 75

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.      | Parts Name          | Description  | Q'ty |
|----------|----------------|---------------------|--------------|------|
| 1~6      | *ZCRC828L-CBR  | Rear Cabinet Ass'y  |              | 1    |
| 1        | *V10345-001    | Rear Cabinet        |              | 1    |
| 2        | *VYN5034-002CA | Name Plate          | Glued        | 1    |
| 3        | V41583-3       | Tape                | "            | 1    |
| 4        | *V44948-00A    | Shield              | "            | 1    |
| 5        | VYSA1R3-013    | Spacer              | "            | 1    |
| 6        | *VYSH110-014   | "                   | "            | 1    |
| 7        |                |                     | Blank No.    |      |
| 8        | QZR4147-001U   | Rod Antenna         |              | 2    |
| 9        | REE6000        | E-ring              |              | 2    |
| 10       | V50029-2       | Rod Antenna Holder  |              | 2    |
| 11       | V41208-003     | Tab                 |              | 2    |
| 12       | SPSP2606Z      | Screw               |              | 2    |
| 13       | V41208-003     | Tab                 |              | 1    |
| 14       | SBSB3006Z      | Screw               |              | 1    |
| 15       | V44618-002     | Antenna Retainer    | Force-fitted | 2    |
| 16       | V44814-00B     | Terminal Ass'y      | "            | 2    |
| 17       | T41240-003     | Battery Contact     | "            | 2    |
| 18       | 53738-1        | Spring              | "            | 2    |
| 19       | *ZCRC828-BCA   | Battery Cover Ass'y |              | 1    |



## Final Packing Ass'y

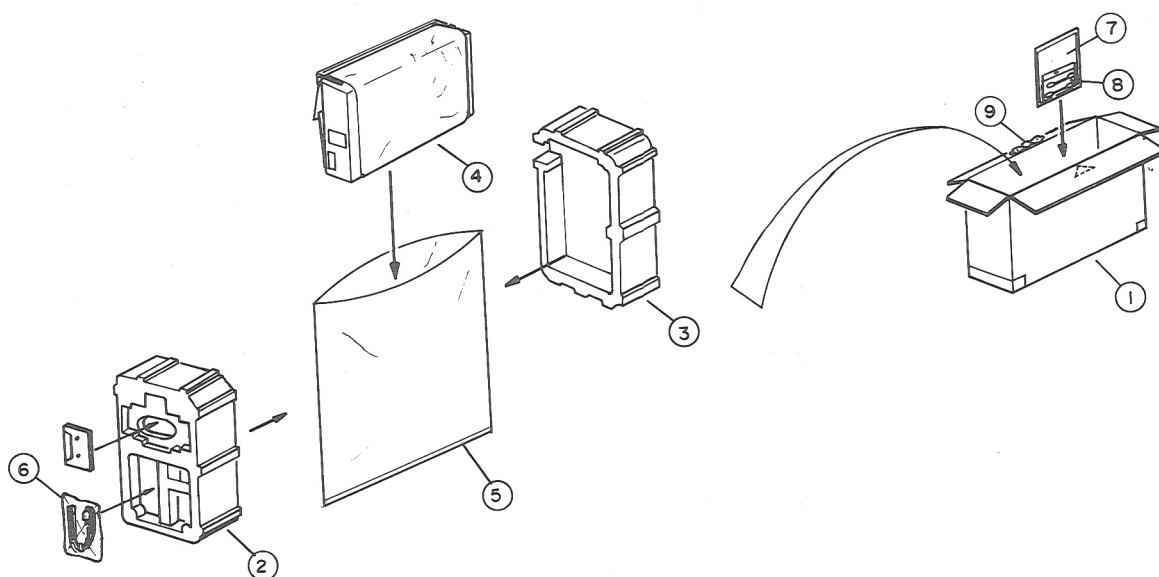


Fig. 76

| Ref. No. | Parts No.     | Parts Name       | Description             | Q'ty |
|----------|---------------|------------------|-------------------------|------|
| 1        | *VPA3002-002  | Carton Case      |                         | 1    |
| 2        | VP1618-001    | Side Cushion (L) |                         | 1    |
| 3        | *VPH1114-001  | " (R)            |                         | 1    |
| 4        | VHPJ109-039   | Wrapping Paper   |                         | 1    |
| 5        | QPGA065-05005 | Polyethylen Bag  |                         | 1    |
| 6        | QPGA012-01505 | "                | for Power Cord          | 1    |
| 7        | QPGB024-03404 | "                | for Instruction Book    | 1    |
| 8        | QPGA012-01505 | "                | for Head Cleaning Stick | 1    |
| 9        | QPSC100-001   | Curl Stopper     |                         | 1    |

## Accessories

| Parts No.    | Parts Name             | Description             | Q'ty |
|--------------|------------------------|-------------------------|------|
| QMP3950-183  | Power Cord             |                         | 1    |
| V43338-1     | Head Cleaning Stick    |                         | 2    |
| VGT12S3-J01  | Cassette Tape          |                         | 1    |
| *VNM0669-002 | Instruction Book       |                         | 1    |
| VNC6301-001  | Trouble Shooting Chart |                         | 1    |
| *VNF0669-001 | Feature Sticker        |                         | 1    |
| *VNC6303-002 | Narration Card         | for Cassette Tape       | 1    |
| TLT000429-01 | Caution Card           | for Head Cleaning Stick | 1    |
| *VNC5501-001 | BIPHONIC Tag           |                         | 1    |

# Difference of Model RC-828LB

Difference between RC-828LB and RC-828L is the power supply section.

## Wiring Connection

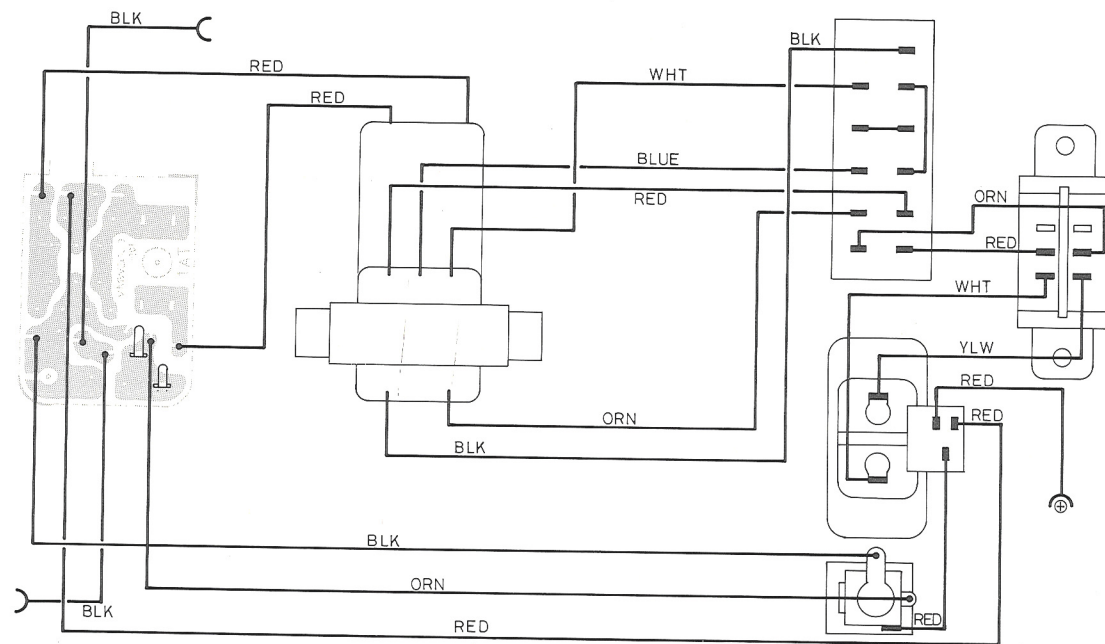


Fig. 77

## Exploded View of Power Supply Ass'y

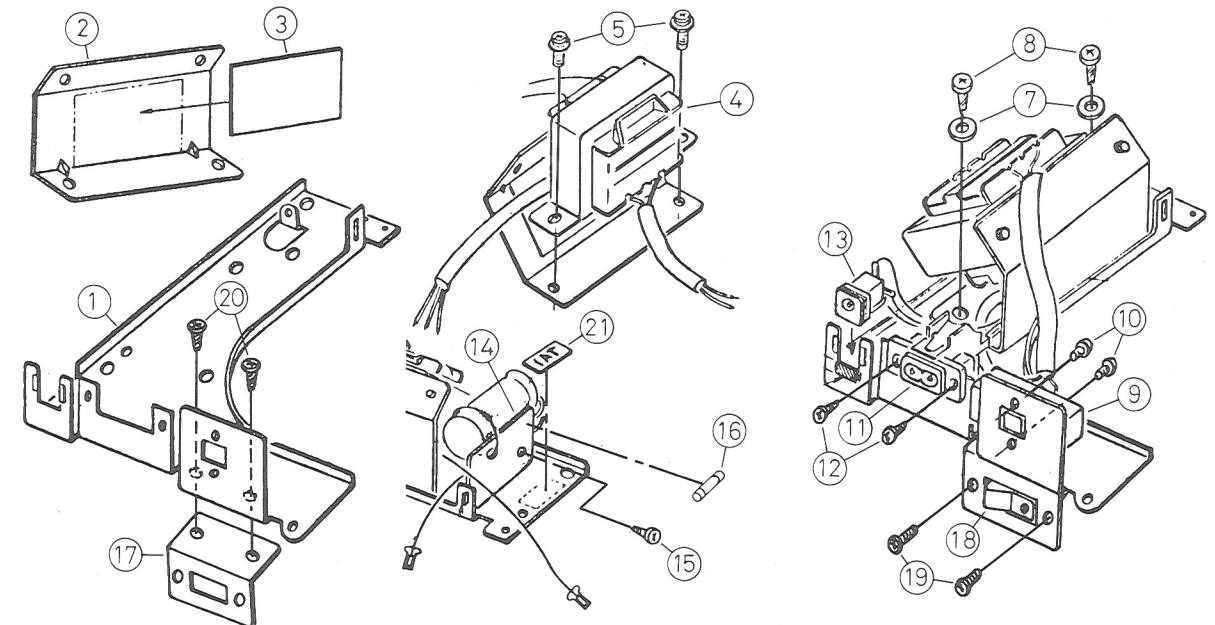


Fig. 78

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.    | Parts Name          | Description  | Q'ty |
|----------|--------------|---------------------|--------------|------|
| 1        | *V31141-005  | Transformer Bracket |              | 1    |
| 2        | *VYH4176-001 | Bracket             |              | 1    |
| 3        | *VYSP1R5-019 | Spacer              |              | 1    |
| 4        | VTP54N2-12A  | Power Transformer   | △ T101       | 1    |
| 5        | DPSP4008ZS   | Ass'y Screw         |              | 2    |
| 6        |              |                     | Blank No.    |      |
| 7        | Q03091-110   | Washer              |              | 2    |
| 8        | SBSB4010Z    | Screw               |              | 2    |
| 9        | QSS2325-005  | Slide Switch        | △ S313       | 1    |
| 10       | SPSP3006ZS   | Screw               |              | 2    |
| 11       | QMC0263-001  | AC Socket Ass'y     |              | 1    |
| 12       | SBSB2608Z    | Screw               |              | 2    |
| 13       | QMA1221-001  | DC Jack Ass'y       | J303         | 1    |
| 14       | *            | Circuit Board Ass'y | Power Supply | 1    |
| 15       | SBSB3006ZS   | Screw               |              | 1    |
| 16       | QMF51A2-1R0  | Fuse                | △ 1AT        | 1    |
| 17       | *VYH4171-001 | Bracket             |              | 1    |
| 18       | *QSE2235-204 | See Saw Switch      | △ S311       | 1    |
| 19       | SDBP3006BS   | Screw               |              | 2    |
| 20       | SBSB3005Z    | "                   |              | 2    |
| 21       | V42816-007   | Fuse Label          | Glued        | 1    |

Note: The parts marked △ in the Description column are critical components for safety. Use the specified parts, when replacing the critical components, never use equivalent parts.



## Exploded View of Front Cabinet (1) (Refer to page 33.)

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.      | Parts Name          | Description | Q'ty |
|----------|----------------|---------------------|-------------|------|
| 1~20     | *ZCRC828LB-CBF | Front Cabinet Ass'y |             | 1    |
| 1        | *V10343-002    | Front Cabinet Ass'y |             | 1    |
| 2        | *V44946-002    | Contact             |             | 1    |
| 3        | SDSP3006ZS     | Screw               |             | 1    |
| 4        | *V20697-002    | Control Panel       | Glued       | 1    |
| 5        | *V44936-001    | Plate (A)           | "           | 1    |
| 6        | *V44937-001    | " (B)               | "           | 1    |
| 7        | *V44938-001    | Dust Pad (A)        | "           | 2    |
| 8        | *V44939-001    | " (B)               | "           | 1    |
| 9        | *V44945-001    | Plate               | "           | 1    |
| 10       | *V20699-001    | Dial Lens           | "           | 1    |
| 11       | VYSH107-005    | Spacer              | "           | 6    |
| 12       | *V20700-001    | Dial Escutcheon     | "           | 1    |
| 13       | *V44940-001    | Microphone Plate    | "           | 2    |
| 14       | QXM2251-001    | Mark                | "           | 1    |
| 15       | *V44957-001    | Reflection Plate    | "           | 1    |
| 16       | *V44941-001    | Fitting             | "           | 1    |
| 17       |                |                     | Blank No.   |      |
| 18       | 47115-042      | Saran Net           | Glued       | 2    |
| 19       | *V44958-00A    | Speaker Grill       |             | 2    |
| 20       | *V44960-001    | Punching Panel      | Glued       | 2    |

## Final Packing Ass'y (Refer to page 36)

| Ref. No. | Parts No.     | Parts Name       | Description             | Q'ty |
|----------|---------------|------------------|-------------------------|------|
| 1        | *VPA3002-013  | Carton Case      |                         | 1    |
| 2        | VP1618-001    | Side Cushion (L) |                         | 1    |
| 3        | *VPH1114-001  | " (R)            |                         | 1    |
| 4        | VHPJ109-039   | Wrapping Paper   |                         | 1    |
| 5        | QPGA065-05005 | Polyethylen Bag  |                         | 1    |
| 6        | QPGA012-02505 | "                | for Power Cord          | 1    |
| 7        | QPGB024-03404 | "                | for Instruction Book    | 1    |
| 8        | QPGA012-01505 | "                | for Head Cleaning Stick | 1    |
| 9        | QPSC100-001   | Curl Stopper     |                         | 1    |

## Accessories

Asterisked parts (\*) show new parts.

| Parts No.    | Parts Name             | Description             | Q'ty |
|--------------|------------------------|-------------------------|------|
| QMP9017-006  | Power Cord             | △ (Critical Component)  | 1    |
| V43338-1     | Head Cleaning Stick    |                         | 2    |
| VGT12S3-J01  | Cassette Tape          |                         | 1    |
| *VNM0669-001 | Instruction Book       |                         | 1    |
| VNC6301-001  | Trouble Shooting Chart |                         | 1    |
| *VNF0669-001 | Feature Sticker        |                         | 1    |
| *VNC6303-001 | Narration Card         | for Cassette Tape       | 1    |
| TLT000429-01 | Caution Card           | for Head Cleaning Stick | 1    |
| OZL1002-003  | Warning Label          | for Power Cord          | 1    |

## Exploded View of Rear Cabinet (Refer to page 35.)

Asterisked parts (\*) show new parts.

| Ref. No. | Parts No.      | Parts Name         | Description | Q'ty |
|----------|----------------|--------------------|-------------|------|
| 1~7      | *ZCRC828LB-CBR | Rear Cabinet Ass'y |             | 1    |
| 1        | *V10345-001    | Rear Cabinet       |             | 1    |
| 2        | *VYN5034-006CA | Name Plate         | Glued       | 1    |
| 3        | V41583-3       | Tape               | "           | 1    |
| 4        | *V44948-00A    | Shield             | "           | 1    |
| 5        | VYSA1R3-013    | Spacer             | "           | 1    |
| 6        | *VYSH110-014   | "                  | "           | 1    |
| 7        | VYSA1R4-041    | "                  | "           | 2    |

— Continued from page 29 —

| Ref. No. | Parts No.     | Parts Name             | Description         | Q'ty |
|----------|---------------|------------------------|---------------------|------|
| 119      | TER267508-02  | “O” Ring               |                     | 1    |
| 120      | Q03091-105    | Washer                 |                     | 2    |
| 121      | SBSB3010Z     | Tap. Screw             |                     | 1    |
| 122      | SBSB3005Z     | Tap Screw              |                     | 1    |
| 123      | WNB2000N      | Washer                 |                     | 2    |
| 124      | TER313570-01  | Motor Cushion          |                     | 1    |
| 125      | SPSP2014Z     | Screw                  |                     | 2    |
| 126      | 031503T       | Washer                 | for Oil Stopper     | 1    |
| 127      | T30301-103    | Spring                 | for Back Tension    | 1    |
| 128      | T30300-049    | Spring                 | for Record Bar      | 1    |
| 129      | WLS2000       | Lock Washer            |                     | 3    |
| 130      | *VKL4105-001  | Washer                 |                     | 2    |
| 131      | SPSP2606Z     | Screw                  |                     | 5    |
| 132      | Q03093-830    | Washer                 | φ2.1 x φ4 x t0.25   | 1    |
| 133      | *QXT646H-015  | Vinyl Tube             | φ4.5 x l15          | 1    |
| 134      | V03082-2      | Feedthru               | C401, C402          | 1    |
| 135      | *VMW3035-501  | Printed Circuit Board  | R/P Head            | 1    |
| 136      | *TFH352445-02 | Metal                  |                     | 1    |
| 137      | *VKS3101-001  | Switch Cover           |                     | 1    |
| 138      | TGX294490-0A  | Rewind Idler Arm Ass'y |                     | 1    |
| 139      | QCF11EZ-223   | Ceramic Capacitor      | C407 (0.022μF, 25V) | 1    |
| 140      | QEW41CA-227   | Electrolytic Capacitor | C408 (220μF, 16V)   | 1    |
| 141      | QEW41CA-107   | Electrolytic Capacitor | C410 (100μF, 16V)   | 1    |
| 142      | *03226-025    | Inductor               | L401, L402          | 2    |